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GERARD P. KUIPER, *Director*
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NO. 30. THE SYSTEM OF LUNAR CRATERS, QUADRANT I

by D. W. G. ARTHUR, ALICE P. AGNIERAY, RUTH A. HORVATH,
C. A. WOOD AND C. R. CHAPMAN

September 16, 1963

ABSTRACT

The designation, diameter, position, central peak information, and state of completeness for each discernible crater in the first lunar quadrant with a diameter exceeding 3.5 km are listed. The catalog contains about 2,000 items and is illustrated by a map in 11 sections.

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AUTHOR

1. Introduction

About 30 years have elapsed since Mary Blagg and Karl Müller completed their work on the nomenclature of the lunar surface features, and more than 20 years since James Young made his relatively limited survey of the diameters of the lunar craters. In the meantime there have been considerable changes in the status and tempo of lunar studies, with better photographs and more support available for work of the type performed by Blagg, Müller and Young.

This catalog lists all the discernible craters with diameters greater than 3.5 km, giving their horizontal dimensions and positions. Smaller craters are also listed, but only when they have specific designations. Many craters which were formerly anonymous have been designated in the present catalog and the diameters of all listed craters have been determined with fair accuracy. Thus in every way the present catalog is a successor to the catalogs of Young and of Blagg and Müller. It is more complete than that of Young, which was limited to craters greater than 10 miles (16 km) across, and is more detailed and accurate than that of Blagg and Müller. Whereas the latter specified the diameters of craters to one thousandth of the lunar radius and was sometimes 20% in error, the diameters in the present catalog are given to one hundredth of this amount. Again,

while the Blagg and Müller positions are often merely estimates, the positions of the present catalog are interpolated from orthographic grids and are almost precise enough for large-scale cartography. Other details, such as central-peak data and background, are listed for each crater.

The catalog is divided into four parts, each part corresponding to a quadrant of the visible lunar hemisphere. It has been thought advisable to limit the catalog to the earthward hemisphere even though the nomenclature studies have been extended into the libratory zones. Therefore, in the main body of the catalog, formations beyond the mean lunar limb are omitted.

The craters are arranged in order of their references which are derived from their rectangular coordinates truncated to two places. The same arrangement was followed in the *Consolidated Catalog of Selenographic Positions* (Comm. L.P.L., No. 11).

2. The Materials

Lunar crater diameters are used for identification, for cartography, and for statistical investigations. None of these warrant extreme accuracy and initial experiments showed that the diameters could be determined with sufficient accuracy (about 0.25 km for the smaller craters) by simple scaling on the sheets of the *Photographic Lunar Atlas*. Occasionally these sheets failed to provide clear images of certain

craters and the measures were then made on original negatives or on enlargements from these.

The sheets of the *Orthographic Atlas of the Moon* were used to estimate the selenographic positions. When these failed in certain limb regions, unpublished gridded photographs were used instead.

A small proportion of the craters was found to be elliptical. The ellipticity is not always obvious on ordinary lunar photographs, but is readily detected by reference to rectified lunar photographs which show each lunar district as seen from vertically above. For the elliptical craters the catalog gives the major and minor diameters.

These rectified photographs form part of a collection compiled under the direction of Dr. G. P. Kuiper, which will be published as the *Rectified Lunar Atlas*. The existence of this collection was extremely fortunate since with its aid we solved many problems which otherwise might have proved troublesome.

3. The Crater Diameter Measures

The nominal scale of the sheets of the *Photographic Lunar Atlas* is 50 inches to the moon's radius, that is, 1000 divisions of a surveyor's scale with 20 divisions per inch. Thus it was found convenient to scale directly on the phototypes with these "twenty" scales. The diameters so obtained are nominally in units of one thousandths of the lunar radius (about 1.08 miles). The subsequent application of a factor approximating to unity removes this nominal status. The appropriate factor was computed for each sheet and entered in the corner. Thus the measurer applied the factor directly and recorded the corrected diameter on the sheet alongside the measured crater. The recorded values are in thousandths of the lunar radius but are still affected by random errors and the effect of finite distance.

Despite obvious accuracy limitations, measures on paper sheets have certain advantages. Clearly it is much easier to organize these measures than those made optically on glass plates. Furthermore, in the case of ruined craters with fragmentary walls, for which the observer must mentally supply those parts of the ellipse which are missing, it was usually fairly easy to sketch in the rim with a colored pencil. The observer then measured the pencilled ellipse.

Elliptical craters required rather more elaborate treatment. The best method of measurement depended on the identification of the ellipse of the rim on a sheet of the *Orthographic Atlas*. The ends of rectified photograph and identified as points on this

the major and minor axes were then taken from a ellipse in the gridded picture. The orthographic coordinates ξ and η were interpolated to 4 places from the grid and their linear separations computed from the differences of ξ , η , and ζ . Diameters obtained in this way do not require correction for finite distance.

Small elliptical craters were often treated in a simpler way; the method that we used depended on the assumption that the foreshortening in the radial direction could be computed with sufficient accuracy from the foreshortening of nearby circular craters.

To bring all measures for one crater together, the entries on the sheets were transferred to cards, one card per crater. Each card shows the diameter measures, estimated position, reference, designation, and all other relevant data for the crater.

4. Scales of the Sheets

As mentioned above, the nominal values of the diameters were converted to true values by the application of conversion factors. The appropriate factor for each sheet was computed by scaling between two well-separated standard points. As an example, the figures for sheet D2a of the *Photographic Lunar Atlas* are given.

For this sheet the approximate librations are $l = +3.2^\circ$ and $b = +2.4^\circ$. Combining the sines and cosines of these, as explained in the introduction to the *Orthographic Atlas*, the transformation from standard to instantaneous direction-cosines is:

$$\begin{aligned}x &= +.9984 \xi & - .0558 \zeta, \\y &= -.0023 \xi + .9991 \eta - .0418 \zeta, \\z &= +.0557 \xi + .0419 \eta + .9975 \zeta.\end{aligned}$$

The two selected standard points with their standard direction-cosines are:

Ref.	ξ	η	ζ
22681	-.2859	+.6143	+.7355,
10646	+.0492	+.6602	+.7495.

The instantaneous values are:

Ref.	x	y	z
22681	-.3265	+.5837	+.7435,
10646	+.0081	+.6282	+.7780.

Adding $xz \sin s'$ to x and $yz \sin s'$ to y , to obtain coordinates in the conical picture, these latter are:

Ref.	X	Y
22681	-.3276	+.5856,
10646	+.0081	+.6304.

These now correspond to the photographic image except for scale, differential refraction, and paper shrinkage. The coordinate differences in X and Y are:

$$.3357 \text{ and } .0448.$$

Hence in units of $0.001r$, the plane distance between the images of the standard points is:

$$\text{Theoretical length} = 338.7.$$

The measured distance on the sheet is:

Measured length = 331.6 scale units,
and the required factor for this sheet is

$$\begin{aligned} 1 \text{ scale unit} &= \frac{\text{theoretical length}}{\text{measured length}} \\ &= \frac{338.7}{331.6} = 1.02141. \end{aligned}$$

This computation was entered in tabular form on the reverse side of each sheet.

Two points should be noted. Firstly, the two selected points were taken as far apart as possible and always in such an alignment that their join was parallel to the general direction of the major diameters of the projected ellipses of the crater rims. This arrangement minimized the results of errors in the measures and of the differential refraction and paper shrinkage. Secondly, the computation was often approximated, as in the example quoted above, by using the geocentric librations when the topocentric values were not immediately available. In the same circumstances the sine of the lunar semidiameter $\sin s'$ was often approximated to 0.0045. These approximations have little effect on the final results.

5. The Crater Diameter Reductions

In a rigorous treatment each diameter measure D should be independently corrected for finite distance by applying the correction $-zD \sin s'$ where z is the third instantaneous direction-cosine and is in fact the distance of the crater from the mean limb in units of the radius. This form of the correction is very inconvenient and is unnecessarily precise. The reduction was approximated as follows. The individual measures were averaged and the correction $-.0045 \zeta D$ was applied to the mean value D . As usual, ζ is the third standard direction-cosine, which was computed from ξ and η very rapidly by using a nomogram. The errors of this procedure are small, except perhaps for the largest craters near the center of the disk.

These reductions were performed on the cards mentioned above.

The diameters in this catalog are straight line distances from rim to rim and are not distances along a mean lunar sphere, as they might be. Furthermore, since our knowledge of absolute lunar altitudes is quite defective, no attempt has been made to correct the diameters to a common datum. Reductions to 'sea-level' are usual for terrestrial horizontal dimensions, but this degree of refinement is not yet possible for the moon.

The diameters are given to two places in units of one thousandth of the lunar radius and to the same accuracy in kilometers. The first decimal place is not always significant and the second is meaningless. Nevertheless these decimals were retained so that the diameters may be transformed to other units without loss of accuracy. The real precision of the measures is discussed below.

6. The Selenographic Positions

The catalog lists the selenographic positions of the craters both as standard direction-cosine sets (ξ, η, ζ) and as longitudes (λ) and latitudes (β). This redundancy is provided so that the reader can perform counts by areas with simple sorting equipment. For example, equal areas are defined by meridians uniformly spaced in λ , by parallels uniformly spaced in η , and by small circles uniformly spaced in ζ .

The coordinates were derived by interpolation of ξ and η from the gridded sheets of the *Orthographic Atlas* or from unpublished gridded sheets. Where the craters are standard points listed in the *Consolidated Catalog of Selenographic Positions* (Comm. No. 11) the published standard values were used instead. The remaining coordinates were obtained by high-speed computation. This procedure introduced certain complications. Frequently for features very close to the limb the values rounded to three places violated the inequality

$$\xi^2 + \eta^2 \leq 1,$$

and to simplify the programming in these cases ζ was set to zero and λ to $\pm 90^\circ$. This has very little real effect on the selenographic positions although the changes may appear to be quite large when expressed in terms of λ and β . However, the matter is mentioned as an explanation of the positional differences between this and the position catalog.

The rectangular coordinates are given to three places and the longitude and latitude to one tenth

of a degree. In general the errors of the former will not exceed 0.002, but no simple statement of accuracy is possible for the latitudes and longitudes.

7. The Nomenclature

Contemporary lunar nomenclature descends from the maps of Riccioli and Mädler. Riccioli innovated the convention of naming the more prominent lunar craters after famous philosophers, scientists, and explorers, while Beer and Mädler amplified this to a scheme in which the smaller craters are lettered and associated with nearby named objects. Thus, *Plato A* would be a crater not far from the crater *Plato*.

For compactness on medium- and small-scale lunar maps, only the letter is entered on the map and the prefixing name is understood. Thus, in the example mentioned, only the letter *A* is shown and the prefix *Plato* is understood. Clearly some further convention is necessary to distinguish between objects with the same letter but different prefixes. This convention also was laid down by Beer and Mädler, but is either not well understood, or ignored by some contemporary lunar cartographers. It may be useful to restate it here, since its neglect causes confusion. When a lettered formation is associated with a named formation, the letter is placed against that side of the formation which is nearest to the named formation. Thus, for *Plato A*, the *A* is placed against the side of the crater which is nearest to *Plato*.

The scheme of Beer and Mädler was not long left in peace. Neison, Schmidt, and a succession of British selenographers published maps in which new names were introduced and the original conventions were either disregarded or mutilated. Unfortunately, there was no uniformity in the additions and alterations so that in time many craters accumulated several different designations. This chaotic situation should have been brought to an end with the publication in 1935 of Blagg and Müller's *Named Lunar Formations*, consisting of a catalog and map. The work was performed at the request of Commission 16 of the International Astronomical Union and the resulting publications were given due authority by the IAU in 1932.

Unfortunately, the Blagg and Müller scheme did not achieve wide usage or acceptance among those who were then active in selenography. This may have been due to the rather limited distribution of the publications, but also may have resulted from the rather illegible nature of the outer sheets of the map. Indeed, for the limb regions, the Blagg and

Müller scheme is frequently defective and erroneous, since their map does not correspond to what can be seen on modern lunar photographs. In fact, it was based in part on photographic materials which would now be regarded as inadequate.

Even if the defects of the Blagg and Müller scheme are ignored, there are other factors present which make a revised scheme an urgent necessity. All the major maps of the past were drawn on the orthographic projection in which the limb regions are strongly compressed by foreshortening. Today new maps are being published in conformal (isomorphic) or near-conformal projections in which there is no foreshortening, each object being shown in horizontal plan. Furthermore, these new maps are the results of intense and careful surveys of a type never achieved before. Thus the new maps show numerous small features well, which were drawn with doubt and generalization on the older maps.

The changes in the new maps (namely, new projections, increased density of detail, and larger scales) all have important implications for the nomenclature. Associations which were valid for the orthographic projection break down in the new maps, since craters which formerly appeared reasonably close together may actually be widely separated. Thus it is often no longer appropriate to letter craters as has been done. The conformal projections also frequently create wide lacunae in the network of names in the limb regions.

In addition to all this, Blagg and Müller's scheme contains craters which do not exist, craters with two designations, craters with identical designations, illogical situations in which objects are associated with named craters which lie beyond other named craters, and other similar defects.

It would be relatively easy to start afresh and create a new nomenclature which would be logical, consistent, and unambiguous. However, the demands of tradition and continuity cannot be ignored. A completely new scheme would render almost useless much of the selenographic literature of the past. Therefore, the nomenclature of this catalog is merely an augmented and amended form of that of Blagg and Müller. The emphasis is on addition rather than alteration and the catalog contains designations for numerous objects which were formerly anonymous.

Changes have been made, but only of necessity. In particular, the number of new names has been kept to a minimum. These are limited to the limb regions in which the removal of foreshortening in the new maps creates illogical situations in the exist-

ing scheme. The new names for Quadrant I are:

Banachiewicz, T.	Polish astronomer;
Dubiago, D. I.	Russian astronomer;
Belkovich, I. V.	Russian selenodetist;
Hayn, F.	German selenodetist;
Nansen, F.	Norwegian polar explorer.

The first four of these were astronomers closely connected with the development of selenodesy, perhaps the most demanding and difficult of the lunar sciences; the fifth was a polar explorer of considerable fame whose name is thus appropriate for an object not far from the lunar north pole.

The task of clarifying, correcting, and amplifying the nomenclature has not been a light one. Often the intentions of Blagg and Müller are so obscure that to arrive at a decision it has been found necessary to refer to the works of Mädler, Lohrmann, Schmidt, and others. In some cases in the limb regions Blagg and Müller misidentified the crater named by one of these authorities, but occasionally they appear to have made a better choice. In such cases we have retained their identifications even though they are incorrect historically.

Errors and defects of the Blagg and Müller scheme necessitate certain alterations in the designations. Frequently we have been obliged to change the designation of craters, by changing either the letter or the name prefix. It seemed best to retain the letter whenever possible and in almost all cases we have been able to do this.

The emphasis in this catalog and the accompanying map is on the craters. Nevertheless, attention has been given to the 1961 resolutions of the International Astronomical Union. The principal recommendations are the latinization of some generic terms, e.g.,

rima for rille;
rupes for fault or wall;
vallis for valley;
mons for mount;
montes for mountains.

The latinization of some of the proper names introduces problems for which there are no entirely satisfactory solutions. If the rules are applied strictly, the resultant designations are often so unfamiliar as to cause confusion and to court rejection. Hence some names have not been correctly latinized while others have been left in their original form. Generally speaking, *Montes* is used for all mountain chains and is followed by a Latin noun in the nominative case. A few exceptions are allowed even in this in order to follow tradition when this is strong

and consistent. *Mons* is used for single mountain masses which are individually named. There is one conspicuous exception to this; *Mont Blanc* is a well known terrestrial peak with a lunar counterpart. The latinized form of this name is *Mons Candidus* which is so unfamiliar as to be unsuitable. Nor is the hybrid form *Mons Blanc* any better. In this one case we have retained the original form as there is a strong terrestrial association which should not be destroyed. Similar difficulties arise with other names of northern European origin. In general we have used hybrid forms for these.

Following Blagg and Müller, craters are indicated by Roman upper-case letters while Greek lower-case characters are used for elevations. The maps of this catalog show two changes. In the first place we have added considerably to the number of designated craters and freely used double letters, such as AB, AC, BF, etc. Secondly, we have considerably reduced the use of Greek letters. Blagg and Müller followed Mädler and Schmidt in applying designations to elevations even when these were merely the east and west walls of craters. There seems to be no real need for this and we have restricted the use of Greek letters to isolated peaks and masses which appear to be useful as landmarks. In areas which are relatively empty except for isolated peaks, we have added some Greek letters in order to provide additional landmarks.

Certain conventions have been followed in order to simplify matters for the users of the maps. Firstly, a designation is always taken to apply to a specific object and never to a group. In cases such as Anaximander, where the designation formerly applied to a group of confluent craters, one crater has been selected to retain the original name while the remaining objects receive fresh designations.

Secondly, we have avoided placing a named object within another, since this must lead to confusion in the lettered objects. However, there are at least three such cases where frequent past usage justifies their retention: Horrocks within Hipparchus, Hell within Deslandres, and Fabricius within Janssen.

Thirdly, the convention has been laid down that the straight line joining a named object to the lettered objects associated with it should never cross the corresponding lines for another named feature. This convention was violated in places by Blagg and Müller and the result is extremely confusing to the user of their map.

8. *Classification of the Craters. (C)*

To provide the reader with some idea of the nature of the listed objects, the craters are classified under the heading *C* according to the sharpness and completeness of their rims on a scale of 1 to 5. The craters with complete and sharply-defined rims are classed as 1, while craters whose rims are either blurred or broken are classed as 2 and 3. Objects which are usually described as ruins are classed as 4, while class 5 covers objects which are so battered or fragmentary that they are not easily recognized as former craters.

Readers should not expect complete accuracy or consistency in this classification. It is not easy in practice to force such a complex array of crater-forms such as are found on the moon into such a brief scale of classes, and the classification was made by several persons.

In some cases a lower case *f* is added to the class number, indicating a flooded interior. This is intended only to suggest that a correction is required to the central peak statistics and should not be used for any other purpose. Indeed it is omitted when a central peak is present.

9. *The Crater Backgrounds (B)*

The surfaces on which the craters are situated are regarded as mare (*M*) or upland (*C*). These indications are given in the column headed by the symbol *B*. Craters which overlap both mare and upland surfaces are indicated by the symbol *MC*. In addition we have attempted to classify the craters as pre-mare and post-mare according to their appearances. The prefix *a* (*ante*) indicates that the crater is pre-mare while the prefix *p* (*post*) indicates that the crater is post-mare. Naturally this classification is restricted to the *M* and *MC* craters. Once again the reader is warned against attaching too much significance to these indications. Lunar photographs show numerous dark areas which are not generally regarded as maria, but which are undoubtedly of a similar nature. We have assumed these to be contemporary with the principal maria. Again, for Mare Imbrium at least, there appear to have been two events, the cataclysmic creation of the mare boundaries and the subsequent flooding of the interior by dark material. The time separation between these may have been considerable, even on a geological time scale. The crater may have been created during this interval and hence there must be certain difficulties in classing it as pre-mare or

post-mare. In general we have followed the rule that the covering by the dark material marks the time in which the mare was born.

10. *Central Peak Information (C.E.)*

The column headed *C.E.* gives central peak information for each crater. This is coded as follows:

- O* = no central object;
- P* = single conspicuous central peak;
- p* = weak central peak;
- PP* = multiple central peak;
- pp* = several weak central elevations;
- K* = central crater;
- F* = central fissure;
- R* = central ridge;
- ? = no information as to central object.

The last of these indicates either that the object is too near the limb to permit examination of its interior, or that the photographs are not good enough to justify a definite opinion.

11. *The Map*

The contents of the catalog for the first quadrant are plotted on a map in 11 sheets. These have the same arrangement as the fields of the *Photographic Lunar Atlas* and are numbered in the same way. The map is in orthographic projection with south at the top. As can be seen from an examination of the sheets, it is of the simplest character and is merely intended to illustrate the nomenclature for the craters. However, rilles, isolated peaks, and mountain chains are also indicated, the approximate boundaries of the last being shown by bands of dots.

The determination of the correct designation of a crater is aided by certain conventions. In crowded areas or in places where confusion might arise, the center of each named formation is indicated by a cross, while the centers of lettered craters are indicated by dots. The typography also follows certain conventions. Upright lettering is used for craters and maria, while sloping lettering indicates an elevation. Arrows are used freely to eliminate any doubt as to which named formation is associated with a lettered crater.

The map may be regarded as a substitute for that of Blagg and Müller, and should be considerably easier to use because of its simpler nature.

12. *The Accuracy of the Diameters*

The heterogeneous nature of the materials used for the measures makes it impossible to state the

precisions in a complete and simple manner. The accuracy varies from area to area and indeed from object to object. Beyond the errors of the measures there is another source of variance due to the departure of the craters from the regular circular form. For these reasons the user is warned that the estimates of the accuracies given here are nothing more than generalizations and should be used with some caution.

Examination of the repeated measures showed, rather surprisingly, that the dispersions are relatively insensitive to class, but are a function of size. The following table gives the standard error σ of a single measure and the corresponding value μ for the mean diameter. The units of the table are thousandths of the lunar radius.

D	<5	5-10	10-15	15-20	20-30	30-40	40-50	50-60
σ	.16	.29	.36	.42	.65	.71	.71	.60
μ	.10	.19	.23	.25	.41	.44	.49	.35

The above figures show that the average number of observations per crater is quite small. This resulted from the policy of restricting the measures to the best photographs. There seemed to be no point in mingling measures on poor photographs with the more precise measures on good photographs. Indeed, more than 500 craters were measured once only because each was shown well on only a single photograph. Usually these were small objects near the limb.

13. Punched-Card Operations

The entire contents of the catalog were transferred to punched cards and high-speed calculations employed to compute λ and β from the standard direction-cosines ξ and η . The same means were used to derive the diameters in kilometers. The logical facilities of the computers were then used to detect errors in the catalog, that is, double entries for the same object and similar mistakes. The card deck will also be used for statistical investigations which will be the subject of further papers.

Copies of this deck will be made available to interested users upon application to the Lunar and Planetary Laboratory.

14. Contemporary Literature

The only other works of importance relating to lunar nomenclature are the lunar charts of the Aeronautical Chart and Information Center of the U.S. Air Force and the *Rectified Lunar Atlas* now being prepared for publication under the direction of Dr. G. P. Kuiper.

The A.C.I.C. charts at 1:1,000,000 are probably

the most complete and detailed lunar maps ever published. These are the result of both telescopic and photographic interpretation by full-time specialists. As a result of the close cooperation between A.C.I.C. and LPL, the nomenclature of this catalog is identical with that of the A.C.I.C. charts. The nomenclature overlays for their charts are prepared in manuscript at LPL so that there is little possibility of discrepancies between the publications of the two organizations or of a recurrence of the chaotic situations which have plagued the subject in the past.

However, there are minor differences which should be noted. Up to the present the A.C.I.C. maps do not carry any indications of the designations of the elevations; that is, no Greek letters are shown. Furthermore, in places the A.C.I.C. maps may indicate double-lettered craters by the combinations *Ab*, *Ac*, *Ga*, whereas we would indicate them by *AB*, *AC*, *GA*. This difference is trivial and cannot confuse.

The *Rectified Lunar Atlas* places special emphasis on the libratory zones. These contain numerous large craters which it would not be appropriate to designate by mere letters when useful photographs are obtained from extra-terrestrial stations. Unfortunately the work on the present catalog was already well advanced before the nomenclature scheme for libratory zones came under consideration. Hence certain craters which are designated by letters in this catalog have received names in the *Rectified Lunar Atlas*. These two sets of designations may for the present be regarded as alternatives, the one suitable for orthographic maps in mean libration, the other more suitable for the maps which will undoubtedly be produced in the future. For the first lunar quadrant the alternatives are:

Gioja A = Byrd;
 Gioja B = Peary;
 Alhazen F = Cannon;
 Plutarch A = Hubble;
 Euctemon J = de Sitter.

Ambiguities of this type will not arise in the remaining three quadrants. It remains to say that these new names are tentative and are being submitted to Commission 16 of the International Astronomical Union for approval.

15. Catalog, Appendices, and Maps

The catalog, consisting of 46 pages, follows, with the headings largely self explanatory. *B & M* stands for the number assigned in the Blagg and Müller IAU Catalog. The symbols *C*, *B* and *C.E.* are

explained in Sections 8–10.

The Catalog is followed by four appendices: I gives, alphabetically, named and lettered craters in the Catalog and their reference numbers; II gives the map locations of each named crater; III contains special remarks, such as changes in IAU nomenclature; and IV lists for the first Quadrant, corrigenda to *Communications*, No. 11.

The maps, 11 in number and preceded by an index sheet, conclude this publication. In the text attention has been called to the proposed nomenclature revisions here included.

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THE CATALOG

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
10002	857	Bruce	+ .007	+ .020	+ 1.000	+ 0.4	+ 1.1	3.85	6.69	1	pM	0
10007		Murchison T	.002	.077	.997	0.1	4.4	1.91	3.32	2	pMC	0
10016	865	Chladni	.020	.070	.997	1.1	4.0	7.83	13.61	1	pM	0
10022	855	Blagg	.026	.021	.999	1.4	1.2	3.11	5.41	1	pM	0
10045		Triesnecker J	.043	.057	.997	2.4	3.2	1.65	2.87	1	pM	0
10045A		Triesnecker H	.048	.058	.997	2.7	3.3	1.46	2.54	1	pM	0
10049	852A	Triesnecker E	.044	.097	.994	2.5	5.5	2.77	4.81	1	pM	0
10060		Rhaeticus L	.062	.002	.998	3.5	0.1	8.10	14.08	4	aMC	0
10061		Rhaeticus M	.067	.018	.998	3.8	1.0	4.65	8.08	4	aMC	0
10067	846	Triesnecker	.063	.073	.995	3.6	4.1	14.93	25.95	1	pM	pp
10072		Rhaeticus N	.074	.021	.997	4.2	1.2	7.06	12.27	4f	aMC	0
10080	833	Rhaeticus	.086	.000	.996	4.9	0.0	28.05 24.51	48.76 42.60	4	C	Rpp
10081			.087	.012	.996	4.9	0.6	2.51	4.36	2	C	0
10081A			.086	.014	.996	4.9	0.8	5.82	10.12	4	C	0
10087	852B	Triesnecker F	.084	.072	.994	4.8	4.1	2.02	3.51	1	pM	0
10091			.098	.010	.995	5.6	0.5	2.09 3.68	3.63 6.40	4	C	0
10093	834	Rhaeticus A	.091	.030	.995	5.2	1.7	6.50	11.30	1	pM	0
10096		Triesnecker G	.091	.064	.994	5.2	3.6	2.29 1.69	3.98 2.94	2	pM	0
10102	1229	Pallas N	.009	.122	.992	0.5	7.0	3.30	5.74	1	C	0
10102A			.000	.121	.993	0.0	6.9	3.03 1.59	5.27 2.76	3	C	0
10105	882	Ukert E	.007	.156	.988	0.4	8.9	2.95	5.13	1	C	0
10107		Ukert Y	.004	.175	.985	0.2	10.0	2.07	3.60	1	C	0
10114		Ukert R	.012	.142	.990	0.6	8.1	10.05	17.47	5f	C	0
10123	879	Ukert	.024	.134	.991	1.3	7.7	13.95	24.25	1	C	R
10124	881	Ukert B	.023	.145	.989	1.3	8.3	11.87	20.63	4f	C	0
10125	880	Ukert A	.024	.152	.988	1.3	8.7	5.72	9.94	2	C	0
10133		Ukert N	.035	.132	.991	2.0	7.5	9.48	16.48	4f	C	0
10133A		Ukert M	.039	.138	.990	2.2	7.9	14.82 12.12	25.76 21.07	4f	C	0
10136		Ukert X	.032	.160	.987	1.8	9.2	1.80	3.13	1	C	0
10142			.044	.122	.992	2.5	7.0	10.17	17.68	4f	aMC	0
10146		Ukert W	.040	.165	.985	2.3	9.4	1.78	3.09	1	C	0
10153		Ukert P	.051	.135	.990	2.9	7.7	2.81	4.88	1	C	0
10155		Ukert V	.056	.152	.987	3.2	8.7	1.66	2.89	2	C	0
10161		Ukert K	.066	.112	.992	3.8	6.4	2.17	3.77	1	pM	0
10179	871	Hyginus D	.074	.198	.977	4.3	11.4	2.68	4.66	1	pM	0
10183	869	Hyginus B	.088	.132	.987	5.0	7.5	3.35	5.82	1	pM	0
10191	867	Hyginus A	.098	.110	.989	5.6	6.3	4.71	8.19	1	pM	0
10248			.044	.288	.957	2.6	16.7	2.20	3.82	2	pM	0
10248A			.049	.288	.956	2.9	16.7	2.07	3.60	2	pM	0
10249			.043	.290	.956	2.5	16.8	2.25	3.91	2	pM	0
10279	800	Manilius F	.079	.292	.953	4.7	16.9	4.91	8.53	2	pMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
10299			+ .099	+ .292	+ .951	+ 5.9	+ 16.9	2.66	4.62	2	C	0
10300		Marco Polo S	.000	.306	.952	0.0	17.8	12.07	20.98	5	C	0
10300A			.000	.302	.953	0.0	17.5	2.23	3.88	2	C	0
10328		Conon Y	.030	.380	.924	1.8	22.3	2.44	4.24	1	C	0
10333		Conon Z	.037	.332	.943	2.2	19.3	3.65	6.34	2	C	0
10336	891	Conon	.032	.369	.929	1.9	21.6	12.41	21.57	1	C	0
10338			.037	.385	.922	2.2	22.6	2.62	4.55	1	C	0
10352		Conon W	.051	.321	.946	3.0	18.7	2.44	4.24	1	C	0
10373	892	Conon A	.072	.336	.939	4.3	19.6	3.72	6.47	1	C	0
10387	896	Aratus A	.081	.374	.924	5.0	21.9	5.76	10.01	2	C	0
10390			.095	.307	.947	5.7	17.8	3.08	5.35	1	C	0
10390A			.096	.302	.948	5.7	17.5	2.04	3.55	2	C	0
10395		Sulp. Gall. H	.093	.352	.931	5.7	20.6	3.02	5.25	2	C	0
10442		Hadley C	.044	.430	.902	2.7	25.4	3.35	5.82	1	pM	0
10446			.041	.463	.885	2.6	27.5	2.01	3.49	1	pMC	0
10470	895	Aratus	.072	.400	.914	4.5	23.5	6.10	10.60	1	C	0
10476	897A	Hadley B	.073	.466	.882	4.7	27.7	5.01	8.71	1	C	0
10480		Aratus B	.087	.410	.908	5.4	24.2	3.97	6.90	2	C	0
10480A			.086	.407	.909	5.4	24.0	2.78	4.83	2	C	0
10491			.093	.417	.904	5.8	24.6	2.64	4.59	2	C	0
10515	917	Aristillus	.018	.557	.830	1.2	33.8	31.84	55.34	1	pM	PP
10518			.012	.584	.812	0.8	35.7	18.27	31.76	5f	aM	0
10521	909	Autolycus	.022	.510	.860	1.4	30.6	22.53	39.16	1	pM	PP
10531	909A	Autolycus A	.033	.514	.857	2.2	30.9	2.13	3.70	1	pM	0
10565	917A	Aristillus A	.066	.553	.831	4.5	33.5	2.59	4.50	1	pM	0
10581		Autolycus K	.081	.518	.852	5.4	31.1	1.72	2.99	1	pM	0
10626		Cassini Y	.028	.668	.744	2.1	41.9	2.34	4.07	1	pM	0
10628		Cassini Z	.029	.687	.726	2.2	43.3	2.29	3.98	1	C	0
10646	936	Cassini M	.049	.660	.750	3.7	41.2	4.98	8.66	1	pM	0
10654	931	Cassini B	.052	.642	.765	3.8	39.9	5.51	9.58	1	pM	0
10657		Cassini W	.055	.673	.738	4.2	42.2	3.18	5.53	1	pM	0
10658			.050	.680	.732	3.9	42.8	29.62	51.48	5f	aMC	0
10659	935A	Cassini L	.055	.694	.718	4.3	43.9	3.62	6.29	2	C	0
10664	930	Cassini A	.063	.649	.758	4.7	40.4	9.80	17.03	1	pM	0
10664A	929	Cassini	.061	.646	.761	4.5	40.2	32.52	56.52	3f	aM	0
10667	936A	Cassini N	.066	.678	.732	5.1	42.6	2.76	4.80	3	C	0
10680	923	Theaetetus	.084	.602	.794	6.0	37.0	14.28	24.82	1	pM	0
10695	934	Cassini F	.096	.654	.750	7.2	40.8	4.10	7.13	1	pM	0
10698	933	Cassini E	.093	.681	.726	7.2	42.9	6.34	11.02	1	C	0
10703		Trouvelot G	.006	.736	.677	0.5	47.3	3.10	5.39	3	C	0
10706	985B	Protagoras E	.006	.760	.650	0.5	49.4	3.55	6.17	1	C	0
10715	984	Trouvelot D	.012	.751	.660	1.0	48.6	9.18	15.96	4	C	0
10720		Cassini P	.023	.704	.710	1.8	44.7	2.40	4.17	1	C	0
10736			.037	.766	.642	3.2	49.9	2.22	3.86	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
10737			+ .032	+ .771	+ .636	+ 2.8	+ 50.4	2.71	4.71	2	C	0
10746			.041	.765	.643	3.6	49.9	2.94	5.11	1	C	0
10750	936B	Cassini K	.050	.708	.704	4.0	45.0	1.81	3.15	2	C	0
10756	968D	Trouvelot H	.051	.764	.643	4.5	49.8	2.83	4.92	1	C	0
10757			.057	.773	.632	5.1	50.6	2.05	3.56	1	C	0
10758			.055	.783	.620	5.0	51.5	2.01	3.49	1	C	0
10759			.056	.792	.608	5.2	52.3	2.11	3.67	2	C	0
10760	935	Cassini G	.068	.703	.708	5.4	44.6	2.89	5.02	1	C	0
10765	968	Trouvelot	.066	.758	.649	5.8	49.2	5.20	9.04	1	C	0
10778	968A	Egede G	.074	.787	.612	6.8	51.9	3.83	6.66	2	pMC	0
10797	966	Egede B	.098	.771	.629	8.8	50.4	4.33	7.53	1	pM	0
10797A			.091	.777	.623	8.3	50.9	2.01	3.49	1	pM	0
10802	(1080)	Archytas G	.005	.825	.565	0.5	55.5	3.92	6.81	1	pM	0
10802A			.004	.823	.568	0.4	55.3	2.56	4.45	1	pM	0
10803		Archytas L	.009	.830	.558	0.9	56.0	2.53	4.40	1	pM	0
10827	971A	Archytas B	.026	.877	.480	3.1	61.2	21.22	36.88	4f	aMC	0
10829	987B	W. Bond D	.025	.895	.445	3.2	63.5	3.72	6.47	1	C	0
10839			.038	.891	.452	4.8	62.9	20.61	35.82	4f	C	0
10840			.045	.800	.598	4.3	53.1	2.36	4.10	1	pM	0
10841			.040	.816	.577	3.9	54.6	2.16	3.75	1	pM	0
10845	971	Archytas	.045	.855	.517	4.9	58.7	18.22	31.67	2	pMC	p
10847		Archytas W	.043	.876	.480	5.1	61.1	3.49	6.07	1	pMC	0
10853	985A	Protagoras B	.055	.832	.552	5.6	56.3	2.60	4.52	1	pM	0
10859		W. Bond G	.054	.891	.451	6.8	62.9	2.30	4.00	1	C	0
10868		Archytas K	.061	.888	.456	7.6	62.6	8.44	14.67	4	C	0
10869		W. Bond E	.069	.897	.437	8.9	63.7	14.87	25.85	4f	C	0
10872	985	Protagoras	.071	.828	.556	7.2	55.8	12.46	21.66	1	pM	p
10878		Archytas U	.073	.889	.452	9.1	62.7	4.47	7.77	1	C	0
10878A			.079	.880	.468	9.5	61.6	2.47	4.29	1	C	0
10881			.085	.818	.569	8.4	54.8	2.80	4.87	2	pM	0
10881A			.082	.813	.576	8.0	54.3	2.31	4.02	1	pM	0
10881B			.087	.812	.577	8.5	54.2	2.77	4.81	2	pM	0
10899	983	Archytas D	.092	.896	.434	11.9	63.6	24.62	42.79	4	C	0
10902	1042	Epigenes D	.000	.929	.370	0.0	68.2	5.38	9.35	2	pM	0
10903			.005	.935	.355	0.8	69.2	2.94	5.11	2	C	0
10904		Barrow G	.001	.940	.341	0.1	70.0	17.44	30.31	3	C	0
10907			.003	.976	.218	0.7	77.4	5.67	9.86	4	C	0
10907A	1015A	Challis A	.008	.976	.218	2.1	77.4	18.19	31.62	4f	C	0
10909	1018	Gioja	.004	.993	.118	1.9	83.2	23.99	41.70	3f	C	0
10909A			.005	.998	.063	4.5	86.3	5.89	10.24	1	C	0
10913		Barrow F	.011	.934	.357	1.7	69.0	10.67	18.55	3	C	0
10917		Scoresby K	.012	.972	.235	2.9	76.4	13.03	22.65	2	C	0
10918			.015	.989	.147	5.8	81.4	5.44	9.46	2	C	0
10919	1018A	Gioja A	.014	.997	.076	10.4	85.5	47.87	83.21	3f	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
10919A	1018B	Gioja B	+ .011	+ .999	+ .043	+ 14.2	+ 87.4	48.51	84.32	3f	C	0
10920	986	W. Bond	.026	.909	.416	3.5	65.3	90.61	157.49	4	C	0
10923		Barrow E	.021	.933	.359	3.3	68.9	9.62	16.72	3	C	0
10924	1006	Barrow A	.022	.943	.332	3.7	70.5	15.42	26.80	1	C	0
10928	1016	Main	.028	.988	.152	10.4	81.1	29.52	51.31	3f	C	0
10928A	1015	Challis	.029	.984	.176	9.3	79.7	31.98	55.59	3f	C	0
10933		Barrow H	.037	.936	.350	6.0	69.3	3.06	5.32	1	C	0
10936		Scoresby M	.034	.968	.249	7.7	75.4	30.83	53.59	4f	C	0
10937		Scoresby Q	.033	.976	.215	8.7	77.4	23.15	40.24	4	C	0
10938			.036	.980	.196	10.4	78.5	2.95 6.43	5.13 11.18	3	C	0
10944	1005	Barrow	.043	.947	.318	7.6	71.2	53.42	92.85	3f	C	0
10944A			.046	.947	.318	8.2	71.2	2.03	3.53	1	pMC	0
10948			.042	.987	.155	15.1	80.7	3.95	6.87	2	C	0
10949		Gioja C	.047	.996	.076	31.7	84.8	18.38	31.95	4	C	0
10949A		Gioja D	.044	.997	.064	34.6	85.5	14.45	25.12	4	C	0
10950	987	W. Bond B	.055	.906	.420	7.4	64.9	8.87	15.42	1	C	0
10951	987A	W. Bond C	.059	.911	.408	8.2	65.6	4.08	7.09	1	C	0
10951A			.055	.918	.393	7.9	66.6	2.02	3.51	1	C	0
10952		Barrow N	.052	.927	.371	7.9	67.9	3.62	6.29	2	C	0
10955	1009	Barrow C	.056	.956	.288	11.0	72.9	16.73	29.08	4f	C	0
10956		Scoresby W	.052	.963	.264	11.1	74.3	5.71	9.92	3	C	0
10956A			.050	.966	.254	11.1	75.0	5.83	10.13	2	C	0
10956B			.056	.964	.260	12.1	74.5	6.18	10.74	4	C	0
10957	1013	Scoresby	.052	.978	.202	14.4	77.9	32.12	55.83	1	C	pp
10957A		Scoresby P	.054	.970	.237	12.8	75.9	13.82	24.02	3	C	0
10957B			.052	.978	.202	14.4	77.9	3.80	6.60	1	C	0
10958A	1014A	Scoresby L	.057	.988	.144	21.6	81.1	7.20	12.51	1	C	0
10959	1014C	Scoresby N	.050	.991	.124	21.9	82.3	5.79	10.06	2	C	0
10962		Barrow M	.060	.924	.378	9.0	67.5	3.96	6.88	2	C	0
10964	1007	Barrow B	.062	.940	.335	10.4	70.0	9.44	16.41	4f	C	0
10966		Meton E	.067	.966	.250	15.0	75.0	24.39	42.39	4f	C	0
10968		Scoresby AA	.065	.985	.160	22.1	80.0	3.28	5.70	1	C	0
10970		W. Bond F	.071	.901	.428	9.4	64.2	4.90	8.52	2	C	0
10973		Barrow K	.070	.935	.348	11.3	69.2	30.20	52.49	4f	C	0
10974		Barrow KB	.075	.940	.333	12.6	70.0	2.68	4.66	1	C	0
10975		Meton F	.076	.951	.300	14.2	71.9	29.07	50.53	4f	C	0
10978	1014	Scoresby A	.076	.986	.148	27.1	80.4	20.92	36.36	2	C	?
10979		Nansen F	.077	.996	.045	59.5	84.8	35.90	62.40	3	C	?
10983		Barrow KA	.080	.939	.334	13.4	69.8	3.03	5.27	2	C	0
10988			.089	.989	.118	36.9	81.4	3.41	5.93	1	C	0
10988A			.089	.983	.161	28.9	79.4	2.79	4.85	1	C	0
10992			.092	.921	.379	13.6	67.0	13.92	24.20	4	C	0
10996	988	Meton	.092	.960	.264	19.1	73.7	69.91	121.51	5f	C	0
10997			.097	.977	.190	27.0	77.6	3.30	5.74	2	C	0
10998		Euctemon M	.094	.987	.130	35.7	80.7	46.39	80.63	4	C	0
10999		Nansen B	.098	.991	.091	47.0	82.3	11.15	19.38	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
10999A		Nansen C	+ .094	+ .994	+ .056	+ 59.2	+ 83.7	18.67	32.45	3	c	?
10999B		Nansen D	.099	.994	.047	64.8	83.7	9.84	17.10	3	c	0
11000			.103	.009	.995	5.9	0.5	2.27	3.95	2	c	0
11001	835A	Rhaeticus D	.108	.015	.994	6.2	0.8	4.15	7.21	2	c	0
11001A		Rhaeticus DA	.105	.011	.994	6.0	0.6	2.35	4.08	2	c	0
11001B			.102	.011	.995	5.8	0.6	3.61	6.27	2	c	0
11004		Dembowski B	.109	.044	.993	6.2	2.5	4.61	8.01	2	c	0
11006	856	Triesnecker D	.104	.061	.993	5.9	3.4	3.48	6.05	1	c	0
11006A		Agrippa G	.107	.068	.992	6.1	3.8	7.64	13.28	4f	aMC	0
11011		Rhaeticus G	.112	.017	.994	6.4	0.9	3.42	5.94	2	c	0
11011A			.116	.018	.993	6.6	1.0	2.39	4.15	2	c	0
11012	835	Rhaeticus B	.119	.028	.992	6.8	1.6	3.35	5.82	1	c	0
11015	825A	Dembowski A	.113	.053	.992	6.4	3.0	3.14	5.46	1	c	0
11016	827	Agrippa D	.116	.066	.991	6.6	3.7	13.16	22.87	4	aMC	0
11021			.128	.015	.992	7.3	0.8	2.10	3.65	2	c	0
11022			.122	.022	.992	7.0	1.2	2.26	3.93	1	c	0
11023		Dembowski C	.128	.036	.991	7.3	2.0	9.01	15.66	4f	c	0
11025	825	Dembowski	.127	.050	.991	7.3	2.8	16.85	29.29	4f	c	0
11030			.136	.005	.991	7.8	0.2	9.35	16.25	4	c	0
11031			.134	.019	.991	7.7	1.0	4.90	8.52	3	c	0
11040			.144	.006	.990	8.2	0.3	5.17	8.99	3	c	0
11041	831A	Godin D	.144	.017	.989	8.2	0.9	3.05	5.30	1	c	0
11042	831	Godin C	.146	.027	.989	8.3	1.5	2.51	4.36	1	c	0
11048	827B	Agrippa E	.147	.090	.985	8.4	5.1	2.82	4.90	1	c	0
11050		Lade W	.150	.004	.989	8.6	0.2	2.15	3.74	1	c	0
11050A			.153	.000	.988	8.8	0.0	4.46	7.75	3f	c	0
11050B		Lade C	.158	.000	.987	9.0	0.0	13.35	23.20	4	c	0
11051			.153	.018	.988	8.8	1.0	2.21	3.84	1	c	0
11057			.154	.078	.985	8.8	4.4	2.00	3.48	1	c	0
11058			.150	.085	.985	8.6	4.8	2.55	4.43	2	c	0
11059	827A	Agrippa S	.154	.092	.984	8.8	5.2	18.52	32.19	4f	c	0
11060			.168	.007	.986	9.6	0.4	2.29	3.98	2	c	0
11064	829	Godin A	.168	.047	.985	9.6	2.6	5.38	9.35	1	c	0
11070		Lade B	.171	.001	.985	9.8	0.0	14.03	24.39	4	c	0
11071	830	Godin B	.171	.013	.985	9.8	0.7	6.88	11.96	1	c	0
11073	828	Godin	.177	.032	.984	10.2	1.8	20.00	34.76	2	c	P
11087	821	Agrippa	.182	.072	.981	10.5	4.1	26.49	46.04	2	c	P
11088		Agrippa H	.185	.083	.979	10.6	4.7	3.56	6.19	2	c	0
11091			.195	.014	.981	11.2	0.8	11.19	19.45	4	c	0
11093		Godin G	.190	.034	.981	10.9	1.9	3.88	6.74	2	c	0
11097	827C	Agrippa F	.197	.076	.977	11.3	4.3	3.70	6.43	2	c	0
11103	866	Hyginus	.109	.135	.985	6.3	7.7	6.13	10.65	3f	pM	0
11109	870B	Hyginus G	.102	.190	.976	5.9	10.9	2.19	3.81	1	pMC	0
11113			.110	.138	.984	6.3	7.9	3.80 2.10	6.60 3.65	3	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
11120	870C	Hyginus H	+ .122	+ .104	+ .987	+ 7.0	+ 5.9	2.00	3.48	1	pM	0
11128		Hyginus N	.127	.183	.975	7.4	10.5	6.23	10.83	3	aMC	0
11131	875A	Hyginus S	.138	.112	.984	7.9	6.4	16.45	28.59	4	aMC	pp
11136		Hyginus W	.132	.168	.977	7.6	9.6	13.43	23.34	5f	aM	0
11138		Hyginus NA	.130	.182	.975	7.5	10.4	2.94	5.11	2	aMC	0
11143	870	Hyginus C	.144	.134	.980	8.3	7.7	2.80	4.87	1	pM	0
11143A	870A	Hyginus F	.148	.139	.979	8.5	7.9	2.55	4.43	1	pM	0
11145	868	Hyginus E	.147	.152	.977	8.5	8.7	2.05	3.56	2	pMC	0
11157	810B	Boscovich B	.158	.170	.973	9.2	9.7	2.75	4.78	1	pMC	0
11160	826	Agrippa B	.164	.108	.981	9.4	6.2	2.10	3.65	2	pMC	0
11164	875	Hyginus Z	.161	.140	.977	9.3	8.0	14.53 9.41	25.26 16.36	5f	aMC	0
11179	812A	Boscovich P	.175	.199	.964	10.2	11.4	38.59 9.60	67.08 16.69	4	aMC	0
11193	820	Silberschlag D	.193	.131	.972	11.2	7.5	2.00	3.48	1	C	0
11197	810	Boscovich	.190	.171	.967	11.1	9.8	26.49	46.04	4f	C	0
11198		Boscovich F	.194	.184	.964	11.3	10.6	2.96	5.14	2	C	0
11200		Manilius DB	.102	.209	.973	5.9	12.0	1.48	2.57	1	pM	0
11208		Manilius FA	.106	.287	.952	6.3	16.6	2.09	3.63	1	C	0
11212	798	Manilius D	.119	.229	.966	7.0	13.2	3.04	5.28	1	pM	0
11220		Manilius DA	.121	.207	.971	7.1	11.9	1.89	3.29	1	C	0
11228	796	Manilius B	.122	.286	.950	7.3	16.6	3.25	5.65	1	C	0
11254	794	Manilius	.153	.250	.956	9.0	14.4	22.21	38.60	1	pMC	PP
11266	801A	Manilius G	.164	.267	.950	9.7	15.4	3.04	5.28	1	pMC	0
11266A		Manilius GA	.162	.261	.952	9.6	15.1	1.71	2.97	2	C	0
11270	797	Manilius C	.176	.209	.962	10.3	12.0	4.10	7.13	1	C	0
11273		Manilius T	.179	.231	.956	10.6	13.3	2.08	3.62	2	C	0
11280	801C	Manilius K	.190	.207	.960	11.1	11.9	1.90	3.30	1	C	0
11283		Manilius U	.182	.238	.954	10.8	13.7	2.05	3.56	1	C	0
11287			.185	.272	.944	11.0	15.7	2.15	3.74	1	C	0
11295	801	Manilius N	.193	.254	.948	11.5	14.7	29.05	50.49	4f	aMC	0
11298		Manilius Z	.195	.282	.939	11.7	16.3	1.83	3.18	1	pM	0
11301	799	Manilius E	.106	.314	.943	6.4	18.3	21.25 33.34	36.94 57.95	5f	aMC	0
11302		Manilius EA	.105	.329	.938	6.3	19.2	2.58	4.48	1	C	0
11303		Sulp. Gall. G	.104	.339	.935	6.3	19.8	3.42	5.94	1	C	0
11310			.116	.307	.945	7.0	17.8	2.03	3.53	1	C	0
11311			.119	.310	.943	7.1	18.0	2.10	3.65	1	C	0
11326			.127	.365	.922	7.8	21.4	2.00	3.48	1	C	0
11340	801B	Manilius H	.143	.306	.941	8.6	17.8	1.88	3.27	1	pM	0
11344	607	Sulp. Gall. M	.142	.348	.927	8.7	20.3	2.71	4.71	1	C	0
11347	606A	Sulp. Gall. A	.144	.375	.916	8.9	22.0	2.39	4.15	2	C	0
11350	795	Manilius A	.151	.303	.941	9.1	17.6	5.21	9.06	2	pMC	0
11363			.170	.339	.925	10.4	19.8	3.20	5.56	1	pMC	0
11393	606	Sulpicius Gallus	.191	.336	.922	11.7	19.6	7.00	12.17	1	pM	0
11402	897	Hadley A	.104	.423	.900	6.5	25.0	3.30	5.74	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
11403			+ .103	+ .439	+ .893	+ 6.5	+ 26.0	2.85	4.95	1	C	0
11431		Aratus D	.136	.412	.901	8.5	24.3	2.21	3.84	1	pM	0
11450	899	Aratus C	.150	.407	.901	9.4	24.0	2.24	3.89	1	pM	0
11471			.176	.415	.893	11.1	24.5	2.54	4.41	2	pM	0
11486	629	Linné	.181	.465	.867	11.7	27.7	1.21	2.10	1	pM	0
11548	750	Calippus B	.142	.588	.796	10.1	36.0	4.28	7.44	1	C	0
11559	750A	Calippus D	.158	.592	.790	11.3	36.2	2.10	3.65	1	pM	0
11588	635B	Linné G	.186	.585	.789	13.2	35.8	2.60	4.52	1	pM	0
11595	635A	Linné H	.198	.555	.808	13.7	33.7	1.82	3.16	1	pM	0
11600	749	Calippus A	.110	.602	.791	7.9	37.0	9.05	15.73	1	C	p
11606	932	Cassini C	.101	.665	.740	7.7	41.6	7.88	13.70	1	pMC	0
11609		Cassini X	.100	.694	.713	7.9	43.9	2.49	4.33	1	C	0
11618			.111	.686	.719	8.7	43.3	2.01	3.49	1	C	0
11620			.126	.602	.788	9.0	37.0	2.31	4.02	2	C	0
11623		Calippus C	.122	.636	.762	9.0	39.4	13.20 21.40	22.94 37.20	4	C	0
11627			.126	.673	.729	9.8	42.2	2.00	3.48	1	pM	0
11635		Calippus F	.131	.651	.748	9.9	40.6	3.90	6.78	1	C	0
11642	748	Calippus	.145	.629	.764	10.7	38.9	17.63	30.64	2	C	0
11656		Calippus G	.150	.660	.736	11.5	41.2	2.41	4.19	1	C	0
11662		Calippus E	.160	.628	.762	11.8	38.9	3.02	5.25	1	C	0
11667	729	Lamèch	.167	.679	.715	13.1	42.7	7.56	13.14	1	C	0
11668	730	Eudoxus D	.166	.686	.708	13.1	43.3	5.51	9.58	2	C	0
11674	746	Alexander	.178	.646	.742	13.4	40.2	46.93	81.57	4	C	0
11688			.181	.682	.709	14.3	43.0	2.01	3.49	2	C	0
11694	746B	Alexander B	.199	.646	.737	15.1	40.2	2.27	3.95	1	C	0
11695	746A	Alexander A	.195	.652	.733	14.9	40.6	2.41	4.19	1	C	0
11695A			.197	.658	.727	15.1	41.1	2.31	4.02	1	C	0
11697			.192	.672	.715	15.0	42.2	2.01	3.49	2	C	0
11707			.103	.770	.630	9.2	50.3	2.21	3.84	1	pM	0
11707A			.107	.771	.628	9.6	50.4	2.11	3.67	1	pM	0
11714			.119	.744	.657	10.2	48.0	2.61	4.54	2	C	0
11716	968B	Egede E	.117	.762	.637	10.4	49.6	2.19	3.81	1	pM	0
11717			.118	.776	.620	10.7	50.8	2.29	3.98	1	pM	0
11718	965	Egede A	.113	.782	.613	10.4	51.4	7.22	12.55	1	pM	0
11718A			.117	.786	.607	10.9	51.8	2.11	3.67	2	pM	0
11724		Egede P	.122	.740	.661	10.4	47.7	2.23	3.88	1	C	0
11725	964	Egede	.122	.751	.649	10.6	48.6	21.35	37.11	3f	aMC	0
11726		Egede N	.124	.762	.636	11.0	49.6	2.15	3.74	1	pM	0
11727			.130	.775	.618	11.8	50.8	2.12	3.68	1	pM	0
11736		Egede M	.139	.761	.634	12.3	49.5	2.55	4.43	1	pMC	0
11738	968C	Egede F	.134	.787	.602	12.5	51.9	2.31	4.02	1	pMC	0
11742			.142	.726	.673	11.9	46.5	2.21	3.84	1	C	0
11746	967	Egede C	.144	.767	.625	12.9	50.0	3.09	5.37	1	pMC	0
11750			.153	.700	.698	12.3	44.4	2.00	3.48	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
11759			+ .150	+ .796	+ .586	+ 14.3	+ 52.7	2.52	4.38	2	pMC	0
11759A			.155	.797	.584	14.8	52.8	2.62	4.55	2	pMC	0
11763			.165	.738	.654	14.1	47.5	2.31	4.02	1	C	0
11773	724A	Aristoteles D	.172	.736	.655	14.7	47.3	3.45	6.00	1	C	0
11783			.181	.731	.658	15.3	46.9	2.20	3.82	2	C	0
11796	710	Aristoteles	.191	.768	.611	17.3	50.1	50.20	87.26	2	pM	pp
11809		Archytas DA	.103	.898	.428	13.5	63.8	4.87	8.46	1	C	0
11810			.115	.807	.579	11.2	53.8	2.01	3.49	1	pM	0
11811			.118	.811	.573	11.6	54.1	20.99	36.48	5f	aM	0
11816			.116	.864	.490	13.3	59.7	17.82	30.97	4f	aM	0
11829			.123	.894	.431	15.9	63.3	3.09	5.37	1	C	0
11836	699	C. Mayer B	.132	.867	.481	15.3	60.1	20.93	36.38	3	C	p
11837	697A	C. Mayer E	.134	.876	.463	16.1	61.1	6.81	11.84	1	C	0
11839	697	C. Mayer	.134	.893	.430	17.3	63.2	21.85	37.98	2	C	P
11845	698	Sheepshanks	.150	.859	.490	17.0	59.2	14.13	24.56	1	pM	p?
11847			.148	.878	.455	18.0	61.4	6.70	11.65	4f	aMC	0
11848	699A	C. Mayer D	.149	.884	.443	18.5	62.1	37.71	65.55	4f	aMC	0
11850			.159	.802	.576	15.4	53.3	2.72	4.73	2	pM	0
11858	699B	C. Mayer F	.157	.883	.442	19.5	62.0	3.81	6.62	1	pMC	0
11861			.161	.819	.551	16.2	54.9	2.23	3.88	1	pM	0
11863	700	Sheepshanks C	.169	.838	.519	18.0	56.9	6.02	10.46	1	pM	0
11866	698A	Sheepshanks A	.162	.865	.475	18.8	59.8	3.85	6.69	1	pM	0
11869			.168	.892	.420	21.8	63.1	18.29	31.79	4f	aMC	0
11872	725B	Galle B	.170	.824	.540	17.4	55.4	4.24	7.37	1	pM	0
11872A			.172	.821	.544	17.5	55.1	3.38	5.87	1	pM	0
11876	698B	Sheepshanks B	.178	.868	.464	21.0	60.2	2.79	4.85	1	pM	0
11877			.170	.879	.445	20.8	61.5	11.59	20.15	4f	aMC	0
11880B			.182	.802	.569	17.7	53.3	2.09	3.63	2	pM	0
11885			.184	.857	.481	20.9	58.9	2.01	3.49	1	pM	0
11896	696A	Kane F	.199	.862	.466	23.1	59.5	4.11	7.14	1	pM	0
11899	696	Kane	.198	.891	.409	25.8	62.9	31.45	54.66	3f	aMC	0
11904	991	Meton B	.100	.947	.305	18.1	71.2	3.65	6.34	1	pMC	0
11904A		Meton C	.108	.942	.318	18.7	70.3	44.48	77.31	4f	C	0
11907	999F	Euctemon H	.106	.971	.214	26.3	76.1	9.03	15.70	3	C	0
11907A			.102	.976	.192	27.9	77.4	7.32	12.72	4	C	0
11908		Euctemon L	.110	.981	.160	34.5	78.8	39.72	69.04	3	C	0
11909		Nansen E	.105	.994	.031	73.7	83.7	6.81	11.84	2	C	0
11910		C. Mayer H	.111	.900	.422	14.7	64.1	24.78	43.07	4f	C	0
11910A			.117	.905	.409	15.9	64.8	3.52	6.12	2	C	0
11912		Meton W	.115	.923	.367	17.3	67.3	4.22	7.33	1	C	0
11916		Euctemon K	.116	.970	.214	28.5	75.9	4.00	6.95	1	pMC	0
11918	999C	Euctemon J	.110	.984	.140	38.1	79.7	37.16	64.59	2	C	p
11919		Nansen A	.114	.992	.054	64.5	82.7	26.40	45.89	2	C	?
11925		Meton D	.128	.952	.278	24.7	72.1	44.85	77.96	4f	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
11927	997	Euctemon	+ .122	+ .972	+ .201	+ 31.2	+ 76.4	35.74	62.12	3f	C	0
11928			.126	.980	.154	39.2	78.5	6.50	11.30	3	C	0
11935			.132	.959	.251	27.7	73.5	11.55	20.08	5	C	0
11935A			.136	.957	.256	27.9	73.1	6.18	10.74	3	C	0
11936		Euctemon N	.137	.968	.210	33.0	75.4	4.32	7.51	1	C	0
11937			.130	.974	.186	35.0	76.9	4.44	7.72	2	C	0
11938	999E	Euctemon G	.130	.981	.144	42.0	78.8	5.26	9.14	1	C	0
11938A	999D	Euctemon F	.132	.984	.120	47.8	79.7	12.61	21.92	1	C	?
11938B		Euctemon X	.139	.985	.102	53.6	80.0	5.37	9.33	2	C	0
11942		Neison D	.144	.927	.346	22.5	67.9	3.18	5.53	2	C	0
11944			.149	.942	.301	26.3	70.3	4.30	7.47	3	C	0
11945	989	Meton A	.149	.958	.245	31.3	73.3	8.15	14.17	3	C	0
11945A		Meton G	.140	.955	.261	28.1	72.7	5.67	9.86	1	C	0
11947	999B	Euctemon D	.141	.974	.177	38.4	76.9	11.45	19.90	1	C	0
11947A	998A	Euctemon C	.150	.970	.191	38.0	75.9	11.46	19.92	2	C	0
11947B			.147	.979	.141	46.1	78.2	2.61	4.54	1	C	0
11948			.140	.986	.091	57.0	80.4	8.74	15.19	2	C	0
11948A		Euctemon W	.149	.982	.116	52.0	79.1	22.82	39.66	3f	C	0
11948B			.142	.988	.061	66.8	81.1	15.38	26.73	3	C	0
11951		Neison C	.154	.920	.360	23.1	66.9	5.17	8.99	3	C	0
11952	990	Neison	.157	.929	.335	25.1	68.2	30.50	53.01	3f	C	0
11953			.154	.934	.322	25.5	69.0	3.38	5.87	2	C	0
11954			.157	.949	.273	29.8	71.6	2.15	3.74	2	C	0
11956	999A	Baillaud E	.158	.962	.223	35.3	74.1	8.20	14.25	1	PMC	0
11957		Euctemon U	.153	.977	.149	45.8	77.6	21.46	37.30	3f	C	0
11957A			.152	.975	.162	43.1	77.1	4.03	7.00	2	C	0
11958		Nansen	.155	.988	.000	90.0	81.0	63.29	110.01	2	C	?
11958A		Nansen V	.158	.982	.103	56.7	79.1	9.87	17.16	2	C	0
11958B			.155	.988	.024	81.9	81.0	9.05	15.73	2	C	0
11958C			.159	.985	.067	67.1	80.0	16.40	28.51	3	C	0
11962		Neison B	.168	.923	.346	35.8	67.3	4.69	8.15	2	C	0
11963			.167	.937	.307	28.5	69.5	20.40	35.46	5f	C	0
11964			.167	.946	.278	31.0	71.0	33.07	57.48	5f	C	0
11965	999	Baillaud B	.160	.956	.246	33.0	72.9	10.00	17.38	2	C	0
11966	998	Baillaud	.162	.964	.211	37.5	74.5	51.49	89.50	3f	C	0
11971			.170	.914	.368	24.7	66.0	2.10	3.65	1	C	0
11972		Neison A	.173	.923	.344	26.7	67.3	5.12	8.90	1	C	0
11977			.174	.972	.158	47.7	76.4	6.09	10.59	2	C	0
11978			.179	.980	.087	64.0	78.5	18.05	31.37	4	C	0
11980		Moigno B	.189	.903	.386	26.0	64.5	14.98	26.04	3f	C	0
11982	695	Peters	.184	.928	.324	29.5	68.1	8.77	15.24	3	C	0
11986		Baillaud A	.186	.968	.168	47.8	75.4	32.29	56.12	4f	C	0
11986A			.188	.964	.188	44.9	74.5	19.71	34.26	3f	C	0
11990		Moigno D	.195	.908	.371	27.7	65.2	13.13	22.82	3f	C	0
11991	683	Moigno	.194	.916	.351	28.9	66.3	21.00	36.50	3f	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
11991A	685	Moigno C	+ .198	+ .913	+ .357	+ 29.0	+ 65.9	5.33	9.26	1	pMC	0
11994	689	Arnold E	.196	.948	.251	38.0	71.4	18.82	32.71	3f	C	0
11995			.197	.957	.213	42.7	73.1	4.41	7.67	2	C	0
11996		Baillaud F	.199	.969	.146	53.6	75.6	11.37	19.76	1	C	0
11997			.192	.971	.142	53.4	76.1	10.35	17.99	3	C	0
11997A			.190	.972	.138	53.9	76.4	3.41	5.93	1	C	0
12002			.200	.026	.979	11.5	1.4	11.54	20.06	4f	C	0
12004			.205	.044	.978	11.8	2.5	2.20	3.82	1	C	0
12004A			.208	.049	.977	12.0	2.8	7.97	13.85	3	C	0
12006	824A	Tempel	.206	.068	.976	11.9	3.8	27.70	48.15	3	C	0
12012	831B	Godin E	.214	.029	.976	12.3	1.6	2.34	4.07	1	C	0
12019	820A	Silberschlag E	.220	.091	.971	12.7	5.2	2.05	3.56	1	C	0
12022			.221	.024	.975	12.7	1.3	2.12	3.68	1	C	0
12030			.239	.008	.971	13.8	0.4	2.25	3.91	1	C	0
12031	562B	d'Arrest B	.236	.017	.972	13.6	0.9	2.92	5.08	1	C	0
12032			.236	.022	.972	13.6	1.2	2.61	4.54	1	C	0
12033	562A	d'Arrest A	.236	.034	.971	13.6	1.9	2.45	4.26	1	C	0
12033A		d'Arrest M	.236	.033	.971	13.6	1.8	13.33 9.95	23.17 17.29	4	C	0
12037	560	Whewell	.237	.073	.969	13.7	4.1	7.83	13.61	2	C	0
12040	3650	Theon Senior B	.244	.003	.970	14.1	0.1	3.26	5.67	1	C	0
12048	560A	Whewell A	.244	.082	.966	14.1	4.7	1.99	3.46	1	C	0
12048A	560B	Whewell B	.249	.087	.965	14.4	4.9	1.86	3.23	1	C	0
12054	562	d'Arrest	.253	.040	.967	14.6	2.2	17.29	30.05	3	C	0
12055	559	de Morgan	.257	.058	.965	14.9	3.3	5.87	10.20	2	C	0
12056			.252	.060	.966	14.6	3.4	4.38 3.83	7.61 6.66	4	C	0
12058	565	Ariadæus B	.259	.085	.962	15.0	4.8	4.99	8.67	2	C	0
12060		d'Arrest R	.269	.009	.963	15.6	0.5	10.80	18.77	3	C	0
12065			.267	.051	.962	15.5	2.9	5.04	8.76	4	C	0
12066	561	Cayley	.260	.069	.963	15.1	3.9	8.24	14.32	1	C	0
12068		Ariadæus BA	.267	.086	.960	15.5	4.9	1.80	3.13	1	C	0
12070			.276	.001	.961	16.0	0.0	6.43	11.18	4	C	0
12075		Dionysius B	.272	.051	.961	15.8	2.9	2.08	3.62	1	C	0
12080			.280	.004	.960	16.2	0.2	5.39	9.37	4	C	0
12088		Ariadæus DA	.286	.083	.955	16.6	4.7	1.83	3.18	1	C	0
12094	553	Dionysius	.297	.049	.954	17.2	2.8	10.15	17.64	1	C	0
12097	563	Ariadæus	.296	.080	.952	17.2	4.5	6.42	11.16	2	pMC	0
12098	565A	Ariadæus D	.292	.085	.953	17.0	4.8	2.26	3.93	1	C	0
12099			.294	.094	.951	17.1	5.3	2.49	4.33	3	C	0
12102	813A	Silberschlag P	.206	.120	.971	11.9	6.8	22.58 14.98	39.25 26.04	4	C	0
12103	813B	Silberschlag S	.208	.139	.968	12.1	7.9	19.78 11.94	34.38 20.75	5	C	pp
12103A			.202	.134	.970	11.7	7.7	2.09	3.63	2	C	0
12104		Boscovich C	.205	.147	.968	11.9	8.4	1.68	2.92	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
12105		Boscovich D	+ .208	+ .156	+ .966	+ 12.1	+ 8.9	2.61	4.54	1	C	0
12110	816	Silberschlag	.216	.108	.970	12.5	6.2	7.72	13.42	1	C	0
12115		Boscovich E	.218	.157	.963	12.7	9.0	11.31	19.66	4	C	0
12116	810A	Boscovich A	.216	.164	.963	12.6	9.4	3.72	6.47	1	C	0
12122	819	Silberschlag A	.227	.121	.966	13.2	6.9	3.96	6.88	1	C	0
12127			.229	.170	.958	13.4	9.7	7.86 5.87	13.66 10.20	3	C	0
12130		Silberschlag G	.238	.100	.966	13.8	5.7	1.85	3.22	1	C	0
12135		Julius Caesar H	.232	.153	.961	13.5	8.8	1.91	3.32	1	C	0
12136	579A	Julius Caesar B	.238	.170	.956	13.9	9.7	3.87	6.73	1	C	0
12136A		Julius Caesar J	.235	.160	.959	13.7	9.2	1.76	3.06	1	C	0
12136B			.238	.164	.957	13.9	9.4	2.28	3.96	1	C	0
12143		Julius Caesar A	.248	.133	.960	14.4	7.6	8.81 7.20	15.31 12.51	4	C	0
12149	584B	Julius Caesar P	.241	.194	.951	14.2	11.1	21.23	36.90	4f	C	0
12149A		Julius Caesar PA	.244	.193	.950	14.3	11.1	1.81	3.15	2	PMC	0
12162	579B	Julius Caesar C	.263	.127	.956	15.3	7.2	3.03	5.27	1	C	0
12165	579	Julius Caesar	.262	.157	.952	15.3	9.0	52.23	90.78	4f	C	0
12167		Julius Caesar G	.267	.177	.947	15.7	10.1	12.48	21.69	4f	C	0
12170			.279	.109	.954	16.3	6.2	9.07	15.77	5	C	0
12171			.274	.119	.954	16.0	6.8	13.58	23.60	4	C	p
12182	579C	Julius Caesar D	.282	.125	.951	16.5	7.1	2.81	4.88	1	C	0
12183			.282	.139	.949	16.5	7.9	2.29	3.98	2	C	0
12194	573A	Sosigenes B	.293	.145	.945	17.2	8.3	2.03	3.53	2	AMC	0
12195	572	Sosigenes	.299	.151	.942	17.6	8.6	10.21	17.75	1f	AMC	0
12210		Julius Caesar F	.219	.200	.955	12.9	11.5	11.14	19.36	4f	C	0
12213		Manilius W	.217	.232	.948	12.8	13.4	2.56	4.45	1	C	0
12224		Manilius X	.224	.249	.942	13.3	14.4	1.86	3.23	1	C	0
12229	604	Menelaus A	.222	.293	.930	13.4	17.0	3.94	6.85	1	PMC	0
12232		Julius Caesar Q	.236	.224	.946	14.0	12.9	18.10 16.19	31.46 28.14	4f	C	0
12235		Menelaus R	.233	.258	.938	13.9	14.9	25.95	45.10	5f	AMC	0
12245	595A	Menelaus C	.242	.256	.936	14.4	14.8	2.30	4.00	1	PMC	0
12247	595	Menelaus S	.246	.271	.931	14.8	15.7	8.04	13.97	3f	AMC	p
12261			.269	.215	.939	15.9	12.4	2.09	3.63	1	PMC	0
12263		Menelaus E	.266	.235	.935	15.8	13.5	1.90	3.30	1	C	0
12268	591	Menelaus	.264	.280	.923	15.9	16.2	15.48	26.91	1	PMC	PP
12272	595B	Menelaus D	.273	.229	.934	16.2	13.2	2.47	4.29	2	C	0
12277			.277	.275	.921	16.7	15.9	7.69 5.48	13.37 9.53	4	C	0
12286	594	Auwers	.285	.260	.923	17.1	15.0	11.75	20.42	3f	C	0
12310	605	Sulp. Gall. B	.214	.309	.927	13.0	17.9	4.15	7.21	2	C	0
12320			.226	.309	.924	13.7	17.9	2.03	3.53	1	PM	0
12353	627	Bessel E	.251	.336	.908	15.4	19.6	3.74	6.50	1	PM	0
12387	619	Bessel	.286	.370	.884	17.9	21.7	9.08	15.78	1	PM	0
12418	631	Linné A	.217	.484	.848	14.3	28.9	2.39	4.15	1	PM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
12454	628	Linné E	+ .253	+ .447	+ .858	+ 16.4	+ 26.5	3.29	5.72	1	pM	0
12458	634	Linné D	.258	.480	.838	17.1	28.6	2.77	4.81	1	pM	0
12503	635	Linné F	.203	.534	.821	13.8	32.2	2.87	4.99	1	pM	0
12510	632	Linné B	.211	.508	.835	14.1	30.5	2.94	5.11	1	pM	0
12590	485	Posidonius E	.290	.508	.811	19.6	30.5	1.89	3.29	1	pM	0
12592		Posidonius W	.293	.524	.800	20.1	31.6	1.92	3.34	1	pM	0
12602		Alexander C	.201	.622	.757	14.8	38.4	2.69	4.68	1	C	0
12609	726	Eudoxus	.201	.698	.687	16.3	44.2	38.63	67.14	1	C	pp
12622			.220	.627	.747	16.4	38.8	2.31	4.02	2	C	0
12629		Eudoxus W	.220	.690	.690	17.6	43.6	2.89	5.02	2	C	0
12631			.237	.610	.756	17.4	37.5	2.82	4.90	4	C	0
12631A			.231	.613	.756	17.0	37.8	7.25	12.60	4	C	0
12634			.238	.644	.727	18.1	40.0	2.00	3.48	1	C	0
12637			.239	.670	.703	18.7	42.0	2.23	3.88	2	C	0
12638		Eudoxus V	.236	.683	.691	18.8	43.0	2.54	4.41	1	C	0
12644			.241	.643	.727	18.3	40.0	2.17	3.77	1	C	0
12647			.246	.677	.694	19.5	42.6	4.13	7.18	3	C	0
12648			.240	.684	.689	19.2	43.1	2.02	3.51	2	C	0
12654		Alexander K	.252	.649	.718	19.3	40.4	2.29	3.98	1	C	0
12659	730A	Eudoxus E	.258	.699	.667	21.1	44.3	3.05	5.30	1	C	0
12659A		Eudoxus U	.250	.693	.676	20.2	43.8	2.07	3.60	1	C	0
12665A		Eudoxus J	.262	.653	.711	20.2	40.7	2.91	5.06	1	C	0
12697	649	Bürg B	.293	.678	.674	23.4	42.6	3.72	6.47	1	C	0
12701	728	Eudoxus B	.208	.715	.667	17.3	45.6	4.59	7.98	1	C	0
12714	721B	Mitchell B	.220	.748	.626	19.3	48.4	3.20	5.56	2	C	0
12714A			.216	.748	.628	18.9	48.4	2.31	4.02	1	C	0
12715	721A	Mitchell A	.214	.753	.622	18.9	48.8	3.20	5.56	2	C	0
12721	732	Eudoxus G	.226	.712	.665	18.7	45.3	4.06	7.06	1	C	0
12726	721	Mitchell	.223	.763	.607	20.1	49.7	17.30	30.07	3	C	pp
12727			.223	.773	.594	20.5	50.6	2.32	4.03	1	C	0
12727A			.228	.777	.587	21.2	50.9	2.14	3.72	2	C	0
12731	727	Eudoxus A	.239	.717	.655	20.0	45.8	8.12	14.11	1	C	0
12742			.241	.727	.643	20.5	46.6	2.18	3.79	2	C	0
12742A			.245	.730	.638	21.0	46.8	3.15	5.48	2	C	0
12743	723	Mitchell E	.249	.739	.626	21.6	47.6	4.77	8.29	1	C	0
12746			.245	.767	.593	22.4	50.0	4.21	7.32	3	pMC	0
12747			.248	.774	.583	23.0	50.7	2.11	3.67	2	pM	0
12748			.248	.784	.569	23.5	51.6	2.23	3.88	2	pM	0
12748A			.241	.786	.569	22.9	51.8	2.37	4.12	3	pM	0
12764			.261	.744	.615	22.9	48.0	2.31	4.02	1	C	0
12779	723A	Aristoteles N	.272	.797	.539	26.7	52.8	3.02	5.25	1	pM	0
12806			.203	.865	.459	23.8	59.8	3.39	5.89	2	pM	0
12810			.210	.808	.550	20.8	53.9	2.59	4.50	2	pM	0
12812	725	Galle	.213	.827	.520	22.2	55.7	12.06	20.96	2	pM	0
12814			.210	.847	.488	23.2	57.8	2.27	3.95	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
12815	(679)	Kane G	+ .219	+ .859	+ .463	+ 25.3	+ 59.2	5.94	10.32	1	pM	0
12817	696B	Kane A	.219	.876	.430	27.0	61.1	2.93	5.09	1	pM	0
12819			.218	.890	.400	28.5	62.8	11.31	19.66	3f	C	0
12820	725A	Galle A	.223	.808	.545	22.2	53.9	3.15	5.48	1	pM	0
12824	722	Galle C	.221	.845	.487	24.4	57.6	6.53	11.35	1	pM	0
12836	678	Democritus B	.239	.866	.439	28.5	59.9	7.00	12.17	1	pM	0
12836A			.234	.867	.440	28.0	60.1	4.15	7.21	2	pM	0
12839	679A	Democritus D	.236	.890	.390	31.1	62.8	4.34	7.54	1	C	0
12840			.240	.803	.546	23.7	53.4	2.03	3.53	1	pM	0
12847			.242	.875	.419	29.9	61.0	45.85	79.69	5f	aMC	0
12857	677	Democritus A	.255	.879	.403	32.3	61.5	6.02	10.46	1	pMC	0
12859		Democritus N	.250	.896	.367	34.2	63.6	9.38	16.30	4f	C	0
12866A	672	Gärtner C	.262	.861	.436	31.0	59.4	4.72	8.20	3	C	0
12868	676	Democritus	.267	.886	.379	35.1	62.3	22.48	39.07	2	C	P
12869		Democritus M	.268	.896	.354	37.1	63.6	3.12	5.42	1	C	0
12870	724	Aristoteles M	.272	.803	.530	27.1	53.4	4.02	6.99	1	pM	0
12874	672B	Gärtner F	.271	.843	.465	30.2	57.4	8.07	14.03	2f	aM	0
12878			.270	.888	.372	35.9	62.6	30.09	52.30	5f	C	0
12884			.281	.846	.453	31.8	57.7	2.68	4.66	1	pM	0
12889		Democritus L	.286	.894	.345	39.6	63.3	10.58	18.39	3f	C	0
12895A	669	Gärtner	.292	.858	.423	34.6	59.0	58.65	101.94	4f	aMC	0
12895	672A	Gärtner D	.292	.852	.435	33.8	58.4	4.46	7.75	1	pM	0
12897	670	Gärtner A	.300	.872	.387	37.7	60.6	8.15	14.17	2f	C	0
12897A			.296	.877	.378	38.0	61.2	7.22	12.55	4	C	0
12899		Democritus K	.295	.892	.343	40.7	63.1	3.91	6.80	1	C	0
12900			.208	.908	.364	29.7	65.2	12.45	21.64	4f	C	0
12902	689A	Arnold G	.201	.923	.328	31.4	67.3	6.14	10.67	1	C	0
12904		Arnold L	.200	.940	.276	35.8	70.0	18.67	32.45	4f	C	0
12905			.204	.952	.228	41.7	72.1	3.32	5.77	3	C	0
12906		Baillaud C	.202	.965	.167	50.3	74.7	5.47	9.51	2	C	0
12907	694D	Petermann D	.204	.974	.099	64.2	76.9	18.01	31.30	2	C	0
12910	685A	Moigno A	.211	.905	.369	29.7	64.8	9.20	15.99	1	C	0
12910A			.219	.906	.362	31.1	64.9	9.88	17.17	3f	C	0
12910B			.216	.900	.379	29.7	64.1	38.34	66.64	5	C	0
12912	689B	Arnold F	.220	.923	.316	34.8	67.3	5.95	10.34	1	pMC	0
12913			.214	.938	.273	38.1	69.7	8.14	14.15	4	C	0
12914		Arnold K	.219	.945	.243	42.0	70.9	10.01	17.40	3f	C	0
12915	689F	Arnold H	.212	.954	.212	45.0	72.5	7.29	12.67	1	C	0
12915A	689E	Arnold D	.216	.959	.183	49.6	73.5	9.26	16.10	3	C	0
12915B			.212	.958	.193	47.6	73.3	4.85	8.43	3	C	0
12921	689D	Arnold J	.227	.912	.342	33.6	65.7	3.59	6.24	1	C	0
12924		Arnold N	.226	.941	.252	41.9	70.2	10.45	18.16	2f	C	0
12924A			.229	.946	.229	44.9	71.0	17.63	30.64	4	C	0
12924B			.222	.947	.232	43.7	71.2	3.03	5.27	1	C	0
12925			.228	.953	.200	48.8	72.3	3.16	5.49	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
12926		Petermann S	+ .225	+ .967	+ .120	+ 62.0	+ 75.2	4.85	8.43	1	C	0
12926A		Petermann R	.223	.962	.158	54.7	74.1	66.02	114.75	5	C	0
12927		Petermann W	.223	.973	.060	75.0	76.6	4.13	7.18	1	C	0
12931	686	Arnold	.231	.919	.319	35.8	66.7	54.58	94.87	3f	C	0
12933	687	Arnold A	.232	.932	.278	39.7	68.7	32.99	57.34	3f	C	0
12936		Petermann T	.232	.967	.105	65.5	75.2	3.31	5.75	1	C	0
12945	694E	Petermann E	.242	.953	.182	53.0	72.3	7.62	13.24	1	C	0
12946		Petermann Y	.246	.969	.023	84.6	75.6	7.12	12.38	3	C	0
12946A		Petermann X	.246	.968	.050	78.6	75.4	6.81	11.84	3	C	0
12952		Arnold M	.255	.929	.268	43.5	68.2	4.84	8.41	2	C	0
12955			.256	.956	.143	60.7	72.9	5.88	10.22	2	C	0
12956	694	Petermann	.250	.962	.110	66.2	74.1	42.11	73.19	3f	C	0
12956A	694A	Petermann A	.260	.966	.000	90.0	74.9	9.05	15.73	1	C	0
12956B			.256	.964	.072	74.3	74.5	5.32	9.25	2	C	0
12964	694C	Petermann C	.267	.948	.173	57.0	71.4	7.67	13.33	1	C	0
12964A			.265	.945	.192	54.1	70.9	6.04	10.50	3	C	0
12965	694B	Petermann B	.266	.955	.131	63.7	72.7	6.14	10.67	1	C	0
12965A			.268	.952	.148	61.1	72.1	3.41	5.93	3	C	0
12965B			.260	.953	.156	59.1	72.3	4.65	8.08	2	C	0
12970	681	Schwabe G	.278	.910	.308	42.1	65.5	8.48	14.74	1	C	0
12972		Schwabe C	.276	.926	.258	46.9	67.8	16.57	28.80	4	C	0
12973		Schwabe W	.276	.937	.214	52.1	69.5	5.26	9.14	1	C	0
12974			.278	.945	.172	58.2	70.9	6.50	11.30	2	C	0
12975			.272	.956	.110	67.9	72.9	2.71	4.71	2	C	0
12982		Schwabe K	.288	.924	.252	48.8	67.5	5.05	8.78	2	C	0
12983			.281	.937	.208	53.5	69.5	5.07	8.81	2	C	0
12983A			.288	.937	.198	55.5	69.5	4.23	7.35	2	C	0
12983B		Schwabe N	.283	.931	.231	50.8	68.5	34.34	59.69	4f	C	0
12993			.291	.930	.225	52.3	68.4	3.20	5.56	1	C	0
12993A			.292	.932	.215	53.6	68.7	10.62	18.46	4	C	0
12994		Cusanus C	.293	.942	.164	60.8	70.3	14.22	24.72	2	C	0
12994A	675A	Cusanus A	.299	.943	.146	63.9	70.5	9.29	16.15	1	C	0
12995	675	Cusanus	.292	.951	.102	70.8	71.9	36.30	63.09	3f	C	0
12995A		Cusanus D	.295	.951	.093	72.5	71.9	5.13	8.92	2	C	0
13002	553A	Dionysius A	.303	.029	.953	17.6	1.6	1.93	3.35	1	C	0
13007	565C	Ariadaeus F	.308	.076	.948	17.9	4.3	1.93	3.35	2	PM	0
13008	564	Ariadaeus A	.300	.081	.950	17.5	4.6	4.83	8.40	1	PMC	0
13009	565B	Ariadaeus E	.302	.093	.949	17.6	5.3	13.24	23.01	4f	AMC	0
13021	552	Schmidt	.322	.017	.947	18.7	0.9	6.56	11.40	1	PM	0
13023	542	Ritter	.329	.035	.944	19.2	2.0	17.77	30.89	2	AM	0
13024	544	Ritter C	.323	.048	.945	18.8	2.7	7.91	13.75	2	PM	P
13025	543	Ritter B	.324	.057	.944	18.9	3.2	8.01	13.92	2	PM	0
13026	545	Ritter D	.321	.064	.945	18.7	3.6	4.11	7.14	1	PM	0
13028	537A	Manners A	.326	.081	.942	19.0	4.6	1.88	3.27	1	PM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
13499			+ .391	+ .491	+ .778	+ 26.6	+ 29.4	65.84	114.44	5f	aM	0
13518	(490C)	Luther H	.313	.588	.746	22.7	36.0	4.06	7.06	1	C	0
13539		Luther X	.333	.590	.736	24.3	36.1	2.25	3.91	2	pM	0
13544	491	Luther	.342	.547	.764	24.1	33.1	5.48	9.53	1	pM	0
13577	490B	Posidonius G	.376	.570	.731	27.2	34.7	2.62	4.55	1	pM	0
13584	490A	Posidonius F	.383	.541	.749	27.0	32.7	3.45	6.00	1	pM	0
13585	490	Posidonius P	.385	.553	.739	27.5	33.5	8.69	15.10	1	pM	0
13603		Plana G	.302	.630	.715	22.8	39.0	5.35	9.30	1	pM	0
13604	645B	Plana E	.304	.650	.696	23.5	40.5	3.65	6.34	1	pM	0
13610		Luther K	.314	.608	.729	23.2	37.4	2.01	3.49	1	pM	0
13610A			.312	.609	.729	23.1	37.5	2.01	3.49	1	pM	0
13614	645C	Plana F	.312	.640	.702	23.9	39.7	2.69	4.68	1	pM	0
13621		Luther Y	.325	.617	.717	24.3	38.0	2.06	3.58	1	pM	0
13626	645A	Plana D	.329	.666	.669	26.1	41.7	4.19	7.28	1	pM	0
13637	645	Plana C	.335	.679	.653	27.1	42.7	7.91	13.75	1	pM	0
13640	467	Daniell D	.348	.602	.719	25.8	37.0	3.64	6.33	1	pM	0
13640A			.345	.604	.718	25.6	37.1	2.02	3.51	2	pM	0
13657	644	Plana	.350	.672	.653	28.2	42.2	25.46	44.25	3	aMC	P
13666	639A	Mason B	.369	.667	.647	29.6	41.8	6.27	10.90	1	C	0
13668	639	Mason A	.368	.680	.634	30.1	42.8	2.83	4.92	1	pMC	0
13676			.374	.666	.645	30.0	41.7	2.76	4.80	1	C	0
13677	638	Mason	.373	.678	.633	30.4	42.6	18.72 24.80	32.54 43.11	3f	C	0
13693			.391	.633	.668	30.3	39.2	2.46	4.28	1	pM	0
13710		Lacus Mortis	.319	.708	.630	26.8	45.0	93.42	162.38	4f	aMC	0
13716			.314	.763	.565	29.0	49.7	5.44	9.46	2	C	0
13718		Baily K	.316	.782	.537	30.4	51.4	1.95	3.39	1	pM	0
13723			.320	.733	.600	28.0	47.1	2.01	3.49	1	pM	0
13726	659	Baily	.327	.763	.558	30.3	49.7	15.40	26.77	4f	aMC	0
13730	647	Bürg	.334	.708	.622	28.2	45.0	22.76	39.56	1	pM	P
13745	660	Baily A	.344	.751	.564	31.3	48.6	9.95	17.29	1	pM	0
13766			.360	.769	.528	34.2	50.2	2.75	4.78	2	pM	0
13766A			.363	.762	.536	34.0	49.6	2.86	4.97	1	pM	0
13766B			.368	.763	.531	34.7	49.7	3.18	5.53	2	pMC	0
13767	661	Baily B	.362	.776	.517	35.0	50.8	4.21	7.32	1	pM	0
13772	648	Bürg A	.373	.729	.574	33.0	46.8	7.13	12.39	1	pM	0
13773			.378	.730	.569	33.5	46.8	2.91	5.06	2	pM	0
13775			.370	.758	.537	34.5	49.2	2.90	5.04	2	pMC	0
13776			.379	.765	.521	36.0	49.9	19.83	34.47	4f	aMC	0
13808			.307	.881	.360	40.4	61.7	6.88	11.96	3	C	0
13809		Schwabe E	.301	.899	.318	43.4	64.0	10.95	19.03	3	C	0
13817			.319	.877	.359	41.5	61.2	6.44	11.19	2	C	0
13818			.313	.881	.355	41.4	61.7	6.23	10.83	2	C	0
13818A			.313	.882	.352	41.6	61.8	3.44	5.98	2	C	0
13826		Gärtner G	.325	.863	.387	40.0	59.6	12.77 18.91	22.20 32.87	4f	aMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
13032	540A	Sabine A	+ .333	+ .022	+ .943	+ 19.4	+ 1.2	2.10	3.65	2	pM	0
13042	540	Sabine	.343	.024	.939	20.0	1.3	17.41	30.26	2	aM	0
13047	537	Manners	.341	.080	.937	20.0	4.5	8.71	15.14	1f	pM	0
13056	536A	Arago B	.355	.060	.933	20.8	3.4	3.77	6.55	1	pM	0
13066	536B	Arago C	.366	.068	.928	21.5	3.8	1.93	3.35	1	pM	0
13072	540B	Sabine B	.376	.025	.926	22.0	1.4	1.96	3.41	2	pM	0
13081	540C	Sabine C	.390	.018	.921	22.9	1.0	1.90	3.30	2	pM	0
13098	539	Lamont	.394	.089	.915	23.3	5.1	50.47 33.97	87.72 59.04	5f	aM	0
13109	535A	Maclear A	.303	.196	.933	17.9	11.3	2.70	4.69	1	pM	0
13110			.317	.109	.942	18.5	6.2	2.14	3.72	2	pM	0
13113	573	Sosigenes A	.314	.135	.940	18.4	7.7	6.83	11.87	1	pM	0
13114			.319	.146	.936	18.8	8.3	2.66	4.62	2	pM	0
13122	573B	Sosigenes C	.323	.126	.938	19.0	7.2	1.91	3.32	1	pM	0
13124			.323	.145	.935	19.0	8.3	4.18 1.93	7.27 3.35	3	pM	0
13138	535	Maclear	.338	.183	.923	20.1	10.5	11.67	20.28	3f	aM	0
13139	533	Ross B	.338	.197	.920	20.1	11.3	3.46	6.01	1	pM	0
13160	536	Arago	.363	.107	.926	21.4	6.1	14.98	26.04	2	pM	R
13167	534E	Ross H	.366	.178	.913	21.8	10.2	2.80	4.87	1	pM	0
13172	536C	Arago D	.378	.120	.918	22.3	6.8	2.62	4.55	1	pM	0
13184	536D	Arago E	.382	.148	.912	22.7	8.5	2.58	4.48	1	pM	0
13189	534B	Ross E	.390	.192	.901	23.4	11.0	2.54	4.41	1	pM	0
13190			.391	.103	.915	23.1	5.9	2.03	3.53	2	pM	0
13203	594A	Auwers A	.305	.238	.922	18.3	13.7	4.33	7.53	1	C	0
13205			.307	.256	.917	18.5	14.8	2.34	4.07	1	C	0
13210	534	Ross C	.318	.201	.927	18.9	11.5	2.81	4.88	1	pM	0
13218	587	Tacquet	.315	.286	.905	19.1	16.6	3.97	6.90	1	pM	0
13227	593	Tacquet B	.329	.273	.904	19.9	15.8	5.91 8.26	10.27 14.36	3	C	0
13227A		Tacquet BA	.326	.276	.904	19.8	16.0	3.24	5.63	2	pMC	0
13234	592	Tacquet A	.336	.248	.909	20.2	14.3	7.25	12.60	1f	aM	0
13243	593A	Tacquet C	.350	.233	.907	21.0	13.4	3.21	5.58	1	pM	0
13256			.359	.268	.894	21.8	15.5	2.13	3.70	1	pM	0
13260	531	Ross	.363	.202	.910	21.7	11.6	15.14	26.32	2	pM	p
13264			.363	.242	.900	21.9	14.0	2.02	3.51	1	pM	0
13281	534A	Ross D	.386	.218	.896	23.2	12.5	5.22	9.07	1	pM	0
13286	520	Plinius	.387	.265	.883	23.6	15.3	24.85	43.19	1	pM	P
13292	520A	Plinius A	.399	.224	.889	24.1	12.9	2.34	4.07	1	pM	0
13326	623	Deseilligny	.328	.360	.873	20.5	21.1	3.77	6.55	1	pM	0
13403	627C	Bessel H	.308	.433	.847	19.9	25.6	2.03	3.53	1	pM	0
13405	625	Bessel D	.302	.459	.836	19.8	27.3	3.30	5.74	1	pM	0
13419	488	Posidonius N	.312	.495	.811	21.0	29.6	4.19	7.28	1	pM	0
13421	622	Bessel A	.325	.418	.848	20.9	24.7	4.35	7.56	1	pM	0
13443			.344	.434	.833	22.4	25.7	2.01	3.49	1	pM	0
13483	509B	Le Monnier B	.386	.432	.815	25.3	25.5	2.92	5.08	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
13827	672C	Gärtner E	+ .330	+ .879	+ .344	+ 43.7	+ 61.5	4.01	6.97	2	PMC	0
13835	432F	Thales W	.334	.853	.401	39.7	58.5	3.48	6.05	1	PM	0
13837			.330	.879	.344	43.7	61.5	32.07	55.74	4f	C	0
13838	432A	Thales G	.338	.880	.334	45.3	61.6	6.62	11.51	1	C	0
13842	(432E)	Gärtner M	.341	.824	.452	37.0	55.4	4.95	8.60	1	PM	0
13845	429	Thales A	.342	.852	.396	40.7	58.4	7.09	12.32	1	PMC	0
13846	432	Thales F	.341	.860	.380	41.9	59.3	21.28	36.99	3f	aMC	0
13855			.358	.851	.384	42.9	58.3	14.68	25.52	4f	C	0
13857			.357	.874	.330	47.2	60.9	6.59	11.45	4	C	0
13857A			.359	.871	.335	46.9	60.5	16.42	28.54	4	C	0
13866	432B	Thales H	.368	.869	.331	48.0	60.3	5.96	10.36	1	C	0
13866A			.367	.865	.342	47.0	59.8	15.41	26.78	4	C	0
13868	427	Thales	.364	.881	.302	50.2	61.7	18.18	31.60	1	C	0
13873			.370	.837	.403	42.5	56.8	3.88	6.74	2	PMC	0
13874	431	Thales E	.370	.841	.395	43.1	57.2	16.56	28.78	4f	C	0
13875			.373	.852	.367	45.4	58.4	3.14	5.46	1	C	0
13877			.376	.878	.296	51.7	61.4	11.96	20.79	3	C	0
13881			.386	.818	.426	42.1	54.8	11.14	19.36	5f	aM	0
13886			.389	.868	.309	51.5	60.2	12.17	21.15	5f	aMC	0
13886A			.383	.861	.335	48.8	59.4	3.33	5.79	1	C	0
13888	421	Strabo	.383	.882	.275	54.3	61.8	31.70	55.10	2f	C	0
13888A			.388	.888	.247	57.5	62.6	3.25	5.65	2	C	0
13892			.397	.825	.402	44.6	55.5	33.64	58.47	4f	aMC	0
13893	424	de la Rue D	.396	.838	.375	46.5	56.9	9.32	16.20	3	C	0
13893A			.396	.833	.386	45.7	56.4	5.60	9.73	2	C	0
13893B			.395	.836	.381	46.0	56.7	3.02	5.25	2	C	0
13895			.395	.854	.339	49.3	58.6	3.69	6.41	1	PMC	0
13898			.397	.882	.254	57.3	61.8	4.06	7.06	2	C	0
13898A			.392	.885	.251	57.3	62.2	5.71	9.92	1	C	0
13900	674	Schwabe	.301	.907	.295	45.6	65.0	14.60	25.38	3f	C	0
13900A		Schwabe D	.302	.903	.306	44.6	64.5	9.97	17.33	3f	C	0
13901	680	Schwabe F	.307	.916	.258	49.9	66.3	11.23	19.52	1	C	0
13902		Schwabe X	.309	.929	.204	56.6	68.2	4.44	7.72	1	C	0
13902A			.309	.927	.213	55.4	67.9	7.16	12.45	2	C	0
13903		Cusanus H	.303	.936	.179	59.4	69.3	4.50	7.82	2	C	0
13903A			.304	.931	.202	56.3	68.5	2.99	5.20	2	C	0
13904	675B	Cusanus B	.308	.940	.147	64.5	70.0	12.31	21.40	2	C	0
13905		Cusanus E	.300	.950	.087	73.8	71.8	5.73	9.96	2	C	0
13914		Cusanus F	.319	.943	.095	73.4	70.5	6.20	10.78	2	C	0
13923			.327	.932	.156	64.4	68.7	3.07	5.34	1	C	0
13930			.337	.909	.245	53.9	65.3	4.09	7.11	3	C	0
13931		Schwabe U	.335	.917	.217	57.1	66.4	9.49	16.50	3	C	0
13932	424A	Strabo C	.335	.921	.199	59.3	67.0	9.83	17.09	2	C	0
13933		Cusanus G	.335	.939	.078	76.9	69.8	6.40	11.12	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
13940	(432C)	Strabo L	+ .350	+ .900	+ .260	+ 53.4	+ 64.1	14.97	26.02	1	C	0
13941			.342	.917	.205	59.0	66.4	5.53	9.61	1	C	0
13942		Hayn S	.343	.927	.152	66.1	67.9	5.71	9.92	1	C	0
13950	(432D)	Strabo N	.360	.905	.227	57.8	64.8	14.41	25.05	1	C	0
13950A	(430)	Strabo B	.354	.903	.243	55.4	64.5	13.14	22.84	2	C	0
13951	(424C)	Hayn J	.351	.919	.180	62.9	66.7	22.28	38.73	3	C	0
13952	(424B)	Hayn E	.357	.921	.156	66.4	67.0	23.87	41.49	2	C	p?
13953		Hayn T	.354	.930	.099	74.3	68.4	4.12	7.16	3	C	0
13960		Hayn D	.366	.910	.195	61.9	65.5	11.33	19.69	4	C	0
13960A			.368	.906	.209	60.3	64.9	3.41	5.93	1	C	0
13960B			.367	.900	.235	57.3	64.1	3.49	6.07	1	C	0
13970	(423)	Hayn B	.377	.908	.183	64.1	65.2	14.28	24.82	2	C	0
13971			.376	.915	.146	68.7	66.2	27.38	47.59	4	C	0
13972	(424D)	Hayn F	.373	.927	.039	83.9	67.9	33.98	59.06	2	C	?
13990		Hayn L	.400	.902	.162	67.8	64.4	15.32	26.63	3	C	0
13991			.392	.920	.000	90.0	66.9	9.55	16.60	1	C	0
14002	540D	Sabine D	.402	.023	.915	23.7	1.3	1.40	2.43	2	pM	0
14022	540E	Sabine E	.422	.024	.906	24.9	1.3	2.63	4.57	1	pM	0
14044	248A	Maskelyne G	.449	.040	.893	26.7	2.2	3.71	6.45	1	pM	0
14052			.456	.021	.890	27.1	1.2	3.23 1.95	5.61 3.39	3	pM	0
14062		Maskelyne X	.460	.023	.888	27.3	1.3	2.42	4.21	1	pM	0
14073		Maskelyne Y	.472	.030	.881	28.1	1.7	2.31	4.02	1	pM	0
14081		Maskelyne W	.488	.015	.873	29.2	0.8	2.33	4.05	1	pM	0
14083	244A	Maskelyne B	.484	.035	.874	28.9	2.0	5.29	9.19	1	pM	0
14094			.499	.048	.865	29.9	2.7	2.47	4.29	2	pM	0
14095	248C	Maskelyne K	.494	.057	.868	29.6	3.2	3.04	5.28	1	pM	0
14097			.494	.071	.867	29.6	4.0	2.50 1.98	4.35 3.44	3	pM	0
14108	534C	Ross F	.403	.189	.895	24.2	10.8	2.87	4.99	1	pM	0
14118	534D	Ross G	.413	.185	.892	24.8	10.6	2.87	4.99	1	pM	0
14120			.422	.101	.901	25.0	5.7	34.61 28.18	60.16 48.98	5f	aM	0
14136	259A	Jansen G	.433	.162	.887	26.0	9.3	3.40	5.91	1	pM	0
14148	259	Jansen B	.441	.185	.878	26.6	10.6	9.05	15.73	2	pM	0
14159			.459	.194	.867	27.8	11.1	32.00	55.62	5f	aM	0
14163	249	Maskelyne M	.463	.136	.876	27.8	7.8	4.39	7.63	1	pM	0
14169	259B	Jansen H	.466	.197	.863	28.3	11.3	3.96	6.88	3f	aM	0
14187		Jansen W	.484	.177	.857	29.4	10.1	1.82	3.16	2	pM	0
14189	259C	Jansen K	.485	.200	.851	29.6	11.5	3.19	5.54	1	pM	0
14224	520B	Plinius B	.429	.243	.870	26.2	14.0	3.12	5.42	3f	aM	0
14229	519	Daves	.424	.296	.856	26.3	17.2	10.34	17.97	1	pM	0
14235		Jansen EB	.439	.256	.861	27.0	14.8	2.42	4.21	2	pM	0
14243		Jansen EA	.443	.239	.864	27.1	13.8	2.20	3.82	2	pM	0
14254	255B	Jansen E	.452	.250	.856	27.8	14.4	4.08	7.09	1	pM	0
14257	255C	Jansen D	.458	.271	.847	28.4	15.7	4.19	7.28	1	pM	0

ξ	η	ζ	λ	β	D	K	C	B	C.E.	β	D	K	C	B	C.E.
+ .415	+ .647	+ .640	+ 32.9	+ 40.3	15.40	26.77	1	PM	P	+ 13.5	13.04	22.67	2f	aM	0
.424	.657	.623	34.2	41.0	7.17	12.46	4f	aMC	0	13.4	2.07	3.60	2	pM	0
.425	.678	.600	35.3	42.6	5.39	9.37	1	PMC	0	15.1	12.70	22.07	4f	aM	0
.426	.696	.578	36.3	44.1	4.63	8.05	1	PM	0	16.2	4.86	8.45	1	pM	0
.436	.625	.648	33.9	38.6	2.83	4.92	1	PM	0	12.5	3.50	6.08	2	pM	0
.430	.697	.574	36.8	44.1	4.16	7.23	1	PMC	0	14.7	4.42	7.68	3f	aM	0
.440	.670	.598	36.3	42.0	2.85	4.95	1	C	0	13.7	2.20	3.82	2	pM	0
.448	.689	.570	38.1	43.5	3.73	6.48	1	C	0	14.7	4.13	7.18	1	pM	0
.450	.669	.592	37.2	41.9	20.78	36.12	3	C	0	13.5	24.33	42.29	4f	aM	R
.457	.675	.579	38.2	42.4	2.07	3.60	1	C	0	17.0	2.36	4.10	1	pM	0
.466	.633	.618	37.0	39.2	2.75	4.78	1	PMC	0	22.3	2.71	4.71	1	pM	0
.464	.652	.600	37.7	40.6	25.42	44.18	4f	aMC	0	20.8	18.56	32.26	5f	aM	0
.472	.642	.604	37.9	39.9	6.85	11.91	2f	aMC	0	22.2	2.24	3.89	1	pM	0
.471	.659	.586	38.7	41.2	3.08	5.35	1	PMC	0	18.6	6.38	11.09	1	PMC	0
.481	.619	.621	37.7	38.2	4.38	7.61	1	PM	0	19.9	2.19	3.81	3	pM	0
.480	.648	.591	39.0	40.3	7.28	12.65	3f	aMC	0	21.6	4.26	7.40	1	pM	0
.499	.602	.623	38.6	37.0	16.25	28.24	3f	aMC	0	21.1	2.44	4.24	1	C	0
.407	.708	.577	35.1	45.0	2.05	3.56	2	C	0	23.0	2.09	3.63	2	PMC	0
.401	.741	.539	36.6	47.8	5.08	8.83	1	C	0	18.9	4.83	8.40	2	C	0
.412	.709	.572	35.7	45.1	2.27	3.95	2	C	0	18.7	2.04	3.55	1	pM	0
.410	.780	.473	40.9	51.2	3.73	6.48	1	C	0	21.5	17.66	30.70	3f	C	0
.415	.784	.462	41.9	51.6	2.78	4.83	1	C	0	21.1	3.88	6.74	2	C	0
.426	.769	.477	41.7	50.2	8.94	15.54	2	C	0	17.6	16.33	28.38	2f	aMC	0
.436	.717	.544	38.7	45.8	5.50	9.56	1	C	0	22.2	11.95	20.77	4f	C	0
.434	.728	.531	39.2	46.7	38.57	67.04	2	C	PP	23.1	20.72	36.01	4f	C	0
.435	.724	.535	39.0	46.3	8.83	15.35	1	PM	0	24.9	3.30	5.74	1	pM	0
.432	.779	.454	43.5	51.1	18.81	32.69	1	C	0	27.7	2.53	4.40	1	C	0
.430	.790	.437	44.5	52.1	4.16	7.23	3f	C	0	24.0	2.22	3.86	1	C	0
.432	.792	.431	45.0	52.3	3.03	5.27	1	C	0	26.5	35.01	60.85	4f	aMC	0
.439	.799	.411	46.8	53.0	2.27	3.95	1	C	0	27.5	2.00	3.48	2	C	0
.447	.750	.488	42.5	48.5	33.37	58.00	4	C	P	29.8	2.99	5.20	1	C	0
.448	.783	.432	46.0	51.5	9.57	16.63	4	C	0	29.8	29.32	50.96	3	C	0
.454	.704	.546	39.7	44.7	4.86	8.45	1	PMC	0	28.9	3.19	5.54	2	C	0
.454	.731	.509	41.7	46.9	6.66	11.58	3	C	0	24.2	2.15	3.74	2	C	0
.455	.750	.480	43.4	48.5	3.69	6.41	2	C	0	25.0	10.06	17.49	4f	C	0
.459	.774	.436	46.4	50.7	13.04	22.67	4	C	0	26.8	12.26	21.31	3f	C	0
.468	.781	.414	48.5	51.3	3.14	5.46	2	C	0	27.1	2.19	3.81	1	C	0
.462	.798	.387	50.0	52.9	3.24	5.63	2	C	0	27.3	13.83	24.04	4	C	0
.470	.735	.489	43.8	47.3	2.73	4.75	1	C	0	29.2	12.36	21.48	4	C	0
.475	.751	.459	46.0	48.6	2.30	4.00	1	C	0	25.9	2.19	3.81	1	C	0
.475	.767	.431	47.7	50.0	2.79	4.85	1	C	0	25.7	2.19	3.81	1	C	0
.481	.712	.512	43.2	45.3	2.17	3.77	2	C	0	26.1	15.41	26.78	4f	C	0
.481	.727	.490	44.4	46.6	50.29	87.41	2	C	0	27.3	2.04	3.55	1	C	0
.486	.770	.413	49.6	50.3	16.67	28.97	3f	aMC	0	27.9	2.49	4.33	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
14488			+ .484	+ .485	+ .728	+ 33.6	+ 29.0	2.79	4.85	2	C	0
14488A			.487	.481	.729	33.7	28.7	11.83	20.56	3	C	0
14489			.488	.499	.716	34.2	29.9	2.59	4.50	2	C	0
14489A		Chacornac E	.484	.492	.724	33.7	29.4	12.36	21.48	4	C	0
14490	281	Littrow D	.496	.402	.770	32.7	23.7	4.57	7.94	1	C	0
14494		Le Monnier U	.495	.440	.749	33.4	26.1	14.46	25.13	4	C	0
14494A			.490	.442	.751	33.1	26.2	2.59	4.50	1	C	0
14495	509A	Le Monnier S	.497	.451	.741	33.8	26.8	22.95 13.01	39.89 22.61	4	C	0
14496			.499	.463	.733	34.2	27.5	2.39	4.15	1	C	0
14499	495	G. Bond B	.493	.498	.713	34.6	29.8	18.76	32.61	3	C	0
14499A			.494	.492	.717	34.5	29.4	2.64	4.59	2	C	0
14512	482	Posidonius A	.419	.525	.741	29.4	31.6	6.46	11.23	1	C	0
14515	489	Posidonius O	.410	.553	.725	29.4	33.5	7.39	12.84	3	C	0
14516	487	Posidonius M	.413	.564	.715	30.0	34.3	5.90	10.26	1	pM	0
14521	481	Posidonius C	.423	.516	.745	29.5	31.0	1.94	3.37	2	C	0
14522	468	Posidonius	.424	.528	.736	29.9	31.8	57.84	100.53	3	aMC	pp
14525	486	Posidonius J	.425	.556	.714	30.7	33.7	11.88	20.65	1	pMC	0
14527	466	Daniell	.422	.579	.698	31.1	35.3	17.06 13.14	29.65 22.84	1	pM	0
14528		Daniell W	.424	.586	.691	31.5	35.8	1.98	3.44	2	pM	0
14529		Daniell X	.423	.596	.683	31.7	36.5	2.95	5.13	1	pM	0
14534	483	Posidonius B	.432	.547	.717	31.0	33.1	8.69	15.10	1	C	0
14544	484	Posidonius D	.441	.540	.717	31.5	32.6	7.24 5.65	12.58 9.82	3	C	0
14554			.450	.542	.710	32.3	32.8	8.62	14.98	4f	aMC	0
14558	(498)	Hall K	.458	.581	.673	34.2	35.5	4.64	8.07	1	pM	0
14560			.468	.501	.728	32.7	30.0	5.98	10.39	3	C	0
14561		Chacornac C	.462	.512	.724	32.5	30.7	2.54	4.41	1	C	0
14570		Chacornac D	.476	.509	.717	33.5	30.5	14.66	25.48	4f	C	0
14572			.472	.528	.706	33.7	31.8	14.25	24.77	5f	aMC	0
14574		G. Bond J	.475	.542	.693	34.4	32.8	3.48	6.05	1	pMC	0
14583			.488	.532	.692	35.1	32.1	2.39	4.15	1	C	0
14584			.482	.543	.688	35.0	32.8	2.54	4.41	1	C	0
14586	497A	Hall C	.482	.569	.666	35.8	34.6	3.56	6.19	1	pM	0
14586A			.487	.560	.670	36.0	34.0	3.92	6.81	2f	aM	0
14588	497	Hall J	.489	.580	.652	36.8	35.4	4.91	8.53	1	pM	0
14589		Hall Y	.484	.593	.644	36.9	36.3	2.42	4.21	1	pM	0
14590		G. Bond BA	.493	.506	.708	34.8	30.3	3.87	6.73	2	C	0
14590A			.498	.504	.706	35.2	30.2	2.49	4.33	2	C	0
14592			.498	.523	.692	35.7	31.5	15.33	26.65	4f	aMC	0
14595			.490	.558	.670	36.1	33.9	4.54	7.89	2	pM	0
14597			.499	.570	.653	37.3	34.7	7.45	12.95	4f	aM	0
14598		Hall X	.498	.583	.642	37.8	35.6	2.51	4.36	1	pM	0
14608	640	Mason C	.408	.680	.609	33.8	42.8	7.14	12.41	1	C	0
14610		Grove Y	.417	.608	.676	31.6	37.4	1.96	3.41	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
14614	463	Grove	+ .415	+ .647	+ .640	+ 32.9	+ 40.3	15.40	26.77	1	pM	p
14625			.424	.657	.623	34.2	41.0	7.17	12.46	4f	aMC	0
14627	456	Hercules C	.425	.678	.600	35.3	42.6	5.39	9.37	1	pMC	0
14629	454B	Hercules J	.426	.696	.578	36.3	44.1	4.63	8.05	1	pM	0
14632			.436	.625	.648	33.9	38.6	2.83	4.92	1	pM	0
14639	454C	Hercules K	.430	.697	.574	36.8	44.1	4.16	7.23	1	pMC	0
14647		Williams N	.440	.670	.598	36.3	42.0	2.85	4.95	1	C	0
14648	460A	Williams F	.448	.689	.570	38.1	43.5	3.73	6.48	1	C	0
14656	460B	Williams	.450	.669	.592	37.2	41.9	20.78	36.12	3	C	0
14657		Williams R	.457	.675	.579	38.2	42.4	2.07	3.60	1	C	0
14663		Maury U	.466	.633	.618	37.0	39.2	2.75	4.78	1	pMC	0
14665			.464	.652	.600	37.7	40.6	25.42	44.18	4f	aMC	0
14674		Maury P	.472	.642	.604	37.9	39.9	6.85	11.91	2f	aMC	0
14675		Williams M	.471	.659	.586	38.7	41.2	3.08	5.35	1	pMC	0
14681	385A	Maury D	.481	.619	.621	37.7	38.2	4.38	7.61	1	pM	0
14684			.480	.648	.591	39.0	40.3	7.28	12.65	3f	aMC	0
14690		Maury C	.499	.602	.623	38.6	37.0	16.25	28.24	3f	aMC	0
14700			.407	.708	.577	35.1	45.0	2.05	3.56	2	C	0
14704	454	Hercules B	.401	.741	.539	36.6	47.8	5.08	8.83	1	C	0
14710			.412	.709	.572	35.7	45.1	2.27	3.95	2	C	0
14718	454A	Hercules H	.410	.780	.473	40.9	51.2	3.73	6.48	1	C	0
14718A			.415	.784	.462	41.9	51.6	2.78	4.83	1	C	0
14726	460	Hercules F	.426	.769	.477	41.7	50.2	8.94	15.54	2	C	0
14731	459	Hercules E	.436	.717	.544	38.7	45.8	5.50	9.56	1	C	0
14732	452	Hercules	.434	.728	.531	39.2	46.7	38.57	67.04	2	C	pp
14732A	458	Hercules G	.435	.724	.535	39.0	46.3	8.83	15.35	1	pM	0
14737	453	Hercules A	.432	.779	.454	43.5	51.1	18.81	32.69	1	C	0
14739			.430	.790	.437	44.5	52.1	4.16	7.23	3f	C	0
14739A			.432	.792	.431	45.0	52.3	3.03	5.27	1	C	0
14739B			.439	.799	.411	46.8	53.0	2.27	3.95	1	C	0
14745	449	Atlas E	.447	.750	.488	42.5	48.5	33.37	58.00	4	C	p
14748			.448	.783	.432	46.0	51.5	9.57	16.63	4	C	0
14750	457	Hercules D	.454	.704	.546	39.7	44.7	4.86	8.45	1	pMC	0
14753			.454	.731	.509	41.7	46.9	6.66	11.58	3	C	0
14755			.455	.750	.480	43.4	48.5	3.69	6.41	2	C	0
14757		Atlas G	.459	.774	.436	46.4	50.7	13.04	22.67	4	C	0
14768		Atlas L	.468	.781	.414	48.5	51.3	3.14	5.46	2	C	0
14769		Endymion X	.462	.798	.387	50.0	52.9	3.24	5.63	2	C	0
14773			.470	.735	.489	43.8	47.3	2.73	4.75	1	C	0
14775			.475	.751	.459	46.0	48.6	2.30	4.00	1	C	0
14776			.475	.767	.431	47.7	50.0	2.79	4.85	1	C	0
14781			.481	.712	.512	43.2	45.3	2.17	3.77	2	C	0
14782	437	Atlas	.481	.727	.490	44.4	46.6	50.29	87.41	2	C	Ppp
14786	441	Atlas D	.486	.770	.413	49.6	50.3	16.67	28.97	3f	aMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
14789			+ .482	+ .794	+ .370	+ 52.4	+ 52.5	4.75	8.26	2	C	0
14789A			.480	.793	.375	51.9	52.4	4.15	7.21	2	C	0
14790		Atlas X	.499	.709	.498	45.0	45.1	2.80	4.87	1	C	0
14790A		Atlas W	.498	.700	.512	44.2	44.4	2.07	3.60	2	C	0
14795			.496	.752	.434	48.8	48.7	2.44	4.24	2	C	0
14797		Endymion K	.495	.780	.383	52.2	51.2	3.93	6.83	1	pMC	0
14803			.401	.833	.381	46.4	56.4	15.40	26.77	3	C	0
14806			.405	.863	.302	53.2	59.6	4.76	8.27	2	C	0
14806A			.404	.864	.300	53.3	59.7	4.76	8.27	3	C	0
14807			.406	.873	.270	56.3	60.8	3.65	6.34	2	C	0
14808		de la Rue R	.409	.884	.226	61.0	62.1	5.37	9.33	2	pMC	0
14809		de la Rue S	.401	.890	.217	61.5	62.8	7.02	12.20	2	pMC	0
14811			.413	.817	.402	45.7	54.7	5.05	8.78	2	C	0
14812		de la Rue W	.412	.826	.385	46.9	55.6	10.13	17.61	3	C	0
14813		de la Rue E	.417	.837	.354	49.6	56.8	18.44	32.05	4f	C	0
14814		de la Rue EA	.410	.842	.351	49.4	57.3	5.57	9.68	2	C	0
14814A			.415	.848	.330	51.5	57.9	2.84	4.94	2	C	0
14815	417A	de la Rue J	.411	.857	.311	52.8	58.9	8.31	14.44	1	C	0
14815A	416	de la Rue	.410	.858	.309	52.9	59.0	78.15	135.84	4f	C	0
14816			.419	.862	.285	55.7	59.5	3.04	5.28	1	C	0
14817		de la Rue Q	.415	.879	.235	60.4	61.5	5.83	10.13	1	C	0
14817A			.413	.872	.263	57.5	60.6	13.88	24.13	3	C	0
14818		Hayn M	.418	.890	.182	66.4	62.8	3.96	6.88	1	pMC	0
14819		Hayn H	.417	.894	.164	68.5	63.3	8.03	13.96	2	C	0
14821			.426	.817	.389	47.6	54.7	15.48	26.91	4f	C	0
14823			.428	.830	.358	50.1	56.0	4.05	7.04	2	C	0
14824			.429	.847	.314	53.8	57.8	13.21	22.96	4f	aMC	0
14827			.426	.876	.226	62.0	61.1	7.01	12.18	2	C	0
14828			.421	.883	.208	63.7	62.0	25.98	45.16	5f	aMC	0
14833			.435	.839	.327	53.0	57.0	16.52	28.71	3f	C	0
14836		de la Rue P	.433	.870	.236	61.4	60.4	6.06	10.53	1	C	0
14839	(422)	Hayn A	.430	.890	.152	70.5	62.8	31.22	54.27	3	C	p
14842			.440	.830	.343	52.0	56.0	3.95	6.87	1	C	0
14842A			.442	.824	.354	51.2	55.4	6.69	11.63	4	C	0
14844			.442	.840	.315	54.5	57.1	9.83	17.09	3	C	0
14849		Belkovich K	.443	.896	.031	86.0	63.6	27.53	47.85	2	C	0
14850		Endymion J	.457	.805	.378	50.3	53.6	29.74	51.69	4	C	p
14851			.458	.819	.346	52.9	54.9	12.31	21.40	3	C	0
14852			.450	.824	.344	52.5	55.4	4.25	7.39	2	C	0
14853	409	Endymion G	.456	.833	.313	55.5	56.4	8.36	14.53	1	pMC	0
14854			.457	.845	.278	58.7	57.6	4.06	7.06	1	pMC	0
14855	406	Endymion C	.457	.852	.255	60.7	58.4	18.66	32.43	3f	C	0
14862			.460	.821	.338	53.6	55.1	4.96	8.62	2	C	0
14864		Endymion CB	.469	.845	.257	61.2	57.6	14.28	24.82	4	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
14864A		Endymion CA	+ .463	+ .845	+ .268	+ 59.9	+ 57.6	17.42	30.28	3	pMC	0
14865		Endymion BB	.464	.856	.228	63.8	58.8	4.26	7.40	1	pMC	0
14866	405	Endymion B	.464	.864	.195	67.1	59.7	33.73	58.63	3f	aMC	0
14872		Endymion Y	.477	.827	.298	58.0	55.7	4.56	7.93	1	C	0
14873			.474	.830	.294	58.1	56.0	87.66	152.37	5	C	0
14877		Belkovich	.479	.877	.038	85.4	61.2	113.69	197.61	4	aMC	pp
14877A			.470	.877	.100	78.0	61.2	6.04	10.50	2	pM	0
14877B			.476	.876	.078	80.7	61.1	6.31	10.97	2	pM	0
14885		Endymion BA	.485	.854	.188	68.7	58.6	4.10	7.13	2	C	0
14890	403	Endymion	.495	.805	.327	56.5	53.6	71.98	125.11	2f	C	0
14892			.496	.825	.271	61.3	55.5	4.46	7.75	1	C	0
14893	408	Endymion F	.495	.834	.244	63.7	56.5	7.74	13.45	3	C	0
14893A			.495	.838	.230	65.1	56.9	5.06	8.80	3	C	0
14893B			.496	.836	.235	64.6	56.7	6.12	10.64	3	C	0
14920	(424E)	Hayn	.426	.904	.036	85.1	64.6	50.09	87.06	2	C	pp
14920A	(424F)	Hayn C	.423	.906	.015	87.9	64.9	7.35	12.78	1	C	0
15003	242	Maskelyne	.500	.038	.865	30.0	2.1	13.67	23.76	2	pM	p
15007			.500	.072	.863	30.0	4.1	2.30 1.86	4.00 3.23	2	pM	0
15009		Maskelyne N	.503	.093	.859	30.3	5.3	3.07	5.34	1	pM	0
15015		Maskelyne R	.519	.053	.853	31.3	3.0	7.74	13.45	4f	aM	0
15030			.535	.005	.845	32.3	0.2	2.76	4.80	1	pMC	0
15030A			.533	.000	.846	32.2	0.0	7.46	12.97	4f	aMC	0
15033			.538	.032	.842	32.5	1.8	2.87	4.99	2	C	0
15034	246	Maskelyne D	.536	.043	.843	32.4	2.4	19.01	33.04	5f	aMC	0
15035		Maskelyne J	.539	.055	.841	32.6	3.1	2.41	4.19	1	pM	0
15038	248B	Maskelyne H	.532	.086	.842	32.2	4.9	3.73	6.48	1	pM	0
15041			.545	.018	.838	33.0	1.0	4.99	8.67	3	C	0
15042	245	Maskelyne C	.540	.020	.841	32.6	1.1	5.41	9.40	3	C	0
15042A			.543	.023	.839	32.8	1.3	3.01	5.23	3	C	0
15045			.541	.051	.839	32.7	2.9	6.58	11.44	4f	aMC	0
15060	243	Maskelyne A	.560	.001	.828	34.0	0.0	16.94	29.44	3	C	p
15060A		Maskelyne P	.560	.009	.828	34.0	0.5	7.00	12.17	3	C	0
15070			.573	.002	.820	34.9	0.1	3.98	6.92	3	C	0
15072			.573	.028	.819	34.9	1.6	2.00	3.48	2	C	0
15077	248	Maskelyne F	.577	.073	.813	35.3	4.1	11.36	19.75	4f	aM	0
15081			.581	.010	.814	35.5	0.5	17.54	30.49	4f	aMC	0
15090			.599	.003	.801	36.7	0.1	7.46	12.97	3f	aMC	0
15106	261	Sinas E	.508	.168	.845	31.0	9.6	5.27	9.16	1	pM	0
15115	260	Sinas	.518	.154	.841	31.6	8.8	7.15	12.43	1	pM	0
15133	260A	Sinas A	.534	.136	.834	32.6	7.8	3.31	5.75	1	pM	0
15141		Sinas K	.542	.119	.832	33.0	6.8	2.75	4.78	1	pM	0
15147		Sinas H	.545	.174	.820	33.6	10.0	3.20	5.56	1	pM	0
15147A		Sinas J	.547	.180	.818	33.7	10.3	3.19	5.54	1	pM	0
15149		Jansen T	.541	.197	.818	33.4	11.3	2.75	4.78	1	pM	0
15156		Sinas G	.556	.167	.814	34.3	9.6	2.80	4.87	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
15163		Cauchy M	+ .570	+ .133	+ .811	+ 35.1	+ 7.6	2.71	4.71	1	pM	0
15170	247	Maskelyne E	.572	.108	.813	35.1	6.2	12.77	22.20	5f	aM	0
15176		Cauchy B	.577	.170	.799	35.8	9.7	3.30	5.74	1	pM	0
15186			.587	.164	.793	36.5	9.4	2.00	3.48	2	pM	0
15190			.597	.101	.796	36.8	5.7	11.85	20.60	5f	aM	0
15196		Cauchy F	.591	.167	.789	36.8	9.6	2.11	3.67	1	pM	0
15196A			.598	.166	.784	37.3	9.5	2.00	3.48	2	pM	0
15201	255A	Jansen F	.504	.218	.836	31.0	12.5	5.47	9.51	1	pM	0
15201A			.502	.213	.838	30.9	12.2	3.20	5.56	2	pM	0
15207		Vitruvius M	.502	.278	.819	31.5	16.1	2.72	4.73	1	pM	0
15207A			.500	.277	.821	31.3	16.0	18.60	32.33	5f	aM	0
15216			.512	.260	.819	32.0	15.0	7.65	13.30	5f	aM	0
15218			.517	.280	.809	32.5	16.2	3.00	5.21	2	C	0
15220		Jansen U	.523	.207	.827	32.3	11.9	2.50	4.35	1	pM	0
15220A			.525	.206	.826	32.4	11.8	2.20	3.82	2	pM	0
15228		Vitruvius K	.529	.282	.800	33.4	16.3	3.02 4.73	5.25 8.22	2	C	0
15228A	268	Vitruvius B	.522	.282	.805	32.9	16.3	11.08	19.26	4	C	0
15229		Vitruvius T	.524	.294	.799	33.2	17.0	9.64	16.76	4	C	0
15236	269	Vitruvius C	.538	.264	.801	33.9	15.3	5.80	10.08	5f	aMC	0
15238		Vitruvius H	.535	.282	.796	33.8	16.3	12.65	21.99	5	C	0
15247			.545	.274	.792	34.5	15.9	3.71	6.45	3	C	0
15254		Vitruvius G	.552	.241	.798	34.6	13.9	3.36	5.84	1	pM	0
15267			.567	.276	.776	36.1	16.0	2.10	3.65	2	pM	0
15268	270	Maraldi D	.565	.286	.774	36.1	16.6	34.52	60.00	4f	aM	0
15272		Maraldi W	.574	.228	.786	36.1	13.1	2.70	4.69	2	pM	0
15284	275A	Maraldi B	.580	.248	.776	36.7	14.3	4.27	7.42	1	pM	0
15301			.503	.318	.804	32.0	18.5	5.57	9.68	3	C	0
15302			.506	.324	.799	32.3	18.9	8.37	14.55	4	C	0
15305			.502	.350	.791	32.4	20.4	7.37	12.81	3	C	0
15306			.505	.363	.783	32.8	21.2	21.13	36.73	5f	C	0
15307			.505	.377	.776	33.0	22.1	20.97	36.45	5	C	0
15307A			.506	.372	.778	33.0	21.8	2.59	4.50	2	C	0
15314		Maraldi R	.513	.347	.785	33.1	20.3	2.64	4.59	1	C	0
15316			.518	.363	.775	33.7	21.2	14.60	25.38	4f	C	0
15324			.524	.342	.780	33.8	19.9	2.09	3.63	1	pMC	0
15327		Littrow F	.520	.374	.768	34.1	21.9	5.92	10.29	2	C	0
15329	309	Römer L	.523	.395	.755	34.7	23.2	6.13	10.65	1	pMC	0
15330	267	Vitruvius A	.530	.305	.791	33.8	17.7	10.61	18.44	1	C	0
15331			.533	.316	.785	34.1	18.4	2.19	3.81	1	C	0
15333	272	Maraldi	.539	.332	.774	34.8	19.3	22.95	39.89	3f	C	0
15338	308	Römer K	.537	.384	.751	35.5	22.5	6.97	12.11	1	pM	0
15338A		Römer KA	.537	.389	.749	35.6	22.8	4.19	7.28	1	pM	0
15338B			.539	.387	.748	35.7	22.7	2.22	3.86	2	pM	0
15339		Römer TA	.532	.399	.747	35.4	23.5	4.83	8.40	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
15342			+ .548	+ .320	+ .773	+ 35.3	+ 18.6	13.35	23.20	5f	aMC	0
15349			.541	.395	.742	36.0	23.2	2.59	4.50	2	C	0
15350		Maraldi E	.557	.305	.772	35.7	17.7	18.08	31.43	4f	aMC	0
15352		Maraldi F	.553	.328	.766	35.8	19.1	10.40	18.08	3f	aMC	0
15354	273A	Maraldi A	.556	.342	.758	36.2	19.9	4.38	7.61	2	pM	0
15361	275	Maraldi N	.569	.315	.760	36.8	18.3	3.04	5.28	2	pM	0
15362			.562	.327	.760	36.4	19.0	13.20	22.94	4f	aMC	0
15368	307	Römer J	.569	.380	.729	37.9	22.3	5.29	9.19	1	pMC	0
15379			.573	.392	.720	38.5	23.0	2.25	3.91	2	C	0
15380			.581	.306	.754	37.6	17.8	2.29	3.98	1	pM	0
15382			.586	.328	.741	38.3	19.1	22.21	38.60	5f	aM	0
15385			.582	.352	.733	38.4	20.6	2.04	3.55	2	pM	0
15389		Macrobius P	.586	.390	.710	39.5	22.9	10.51	18.27	3	C	0
15395			.596	.359	.718	39.6	21.0	2.44	4.24	1	pM	0
15396			.591	.368	.718	39.4	21.5	2.25	3.91	1	pM	0
15396A			.599	.369	.711	40.1	21.6	2.78	4.83	2	C	0
15397			.597	.377	.708	40.1	22.1	2.87	4.99	2	C	0
15398			.595	.389	.703	40.2	22.8	2.22	3.86	2	C	0
15402			.507	.420	.753	33.9	24.8	2.64	4.59	1	C	0
15403		Le Monnier V	.507	.439	.742	34.3	26.0	14.81	25.74	3	C	0
15403A			.502	.434	.748	33.8	25.7	3.09	5.37	2	C	0
15404			.508	.440	.740	34.4	26.1	2.14	3.72	1	pMC	0
15407	505A	G. Bond C	.503	.472	.724	34.7	28.1	26.25	45.63	4	C	0
15407A			.501	.475	.723	34.7	28.3	2.24	3.89	2	C	0
15409			.507	.498	.704	35.7	29.8	2.09	3.63	1	C	0
15411	309A	Römer R	.518	.410	.751	34.6	24.2	19.77	34.36	4f	C	0
15412		Römer M	.513	.428	.744	34.5	25.3	5.16	8.97	1	C	0
15414			.517	.443	.732	35.2	26.2	3.58	6.22	2	C	0
15419			.515	.497	.698	36.4	29.8	29.89	51.95	4f	C	0
15419A			.510	.494	.704	35.9	29.6	2.19	3.81	2	C	0
15423		Römer H	.525	.437	.730	35.7	25.9	5.13	8.92	3	C	0
15425		Römer G	.527	.450	.721	36.1	26.7	10.04	17.45	5	C	0
15431	309B	Römer D	.532	.414	.739	35.7	24.4	6.19	10.76	1	C	0
15432	291	Römer	.537	.429	.726	36.4	25.4	22.76	39.56	1	C	P
15433		Römer Y	.533	.434	.726	36.2	25.7	3.81	6.62	1	C	0
15434			.531	.444	.722	36.3	26.3	2.29	3.98	2	C	0
15435			.531	.450	.718	36.4	26.7	2.89	5.02	3	C	0
15436	303A	Römer C	.533	.464	.708	36.9	27.6	4.85	8.43	1	pMC	0
15436A			.539	.460	.706	37.3	27.3	2.21	3.84	2	pMC	0
15437	302	Römer A	.532	.471	.704	37.0	28.0	19.93	34.64	2f	C	0
15437A			.533	.476	.700	37.3	28.4	3.38	5.87	1	pMC	0
15438			.531	.489	.692	37.4	29.2	3.48	6.05	2	C	0
15438A			.534	.480	.696	37.4	28.6	3.01	5.23	2	C	0
15438B			.534	.482	.695	37.5	28.8	3.22	5.60	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
15440A		Römer T	+ .540	+ .400	+ .741	+ 36.0	+ 23.5	26.97	46.88	4f	aMC	0
15440		Römer Z	.549	.409	.729	36.9	24.1	6.05	10.52	3	C	0
15442		Römer S	.544	.420	.726	36.8	24.8	19.92	34.62	4	C	0
15445		Römer F	.540	.454	.709	37.3	27.0	12.86	22.35	4f	C	0
15447	303	Römer B	.543	.479	.690	38.2	28.6	11.51	20.01	5	C	0
15452		Römer N	.556	.427	.713	37.9	25.2	14.64	25.45	3	C	0
15455		Römer PC	.559	.458	.691	38.9	27.2	4.75	8.26	2	C	0
15457		Römer E	.556	.477	.681	39.2	28.4	18.04	31.36	4f	C	0
15461		Römer V	.568	.414	.711	38.6	24.4	15.99	27.79	4f	C	0
15465		Römer PA	.566	.456	.687	39.4	27.1	6.89 5.72	11.98 9.94	2	C	0
15466		Römer PB	.566	.462	.683	39.6	27.5	3.12	5.42	1	C	0
15469		Kirchhoff G	.561	.497	.662	40.2	29.8	12.90	22.42	3	C	0
15469A			.561	.491	.666	40.0	29.4	4.69	8.15	3	C	0
15470			.572	.400	.716	38.6	23.5	3.06	5.32	2	C	0
15471		Römer U	.577	.411	.706	39.2	24.2	15.99	27.79	4f	C	0
15472			.572	.427	.700	39.2	25.2	3.22	5.60	2	C	0
15474	295A	Römer P	.570	.446	.690	39.5	26.4	34.94	60.73	4	C	0
15477			.577	.474	.665	40.9	28.2	3.18	5.53	2	C	0
15480		Römer X	.588	.409	.698	40.1	24.1	12.65	21.99	3	C	0
15484		Römer PD	.580	.445	.682	40.3	26.4	3.93	6.83	1	C	0
15488			.584	.489	.648	42.0	29.2	8.65	15.03	3	C	0
15492	188	Macrobius M	.595	.422	.684	41.0	24.9	24.00	41.72	4	C	0
15498	314	Newcomb H	.592	.485	.644	42.6	29.0	7.56	13.14	2	C	0
15498A			.599	.486	.636	43.2	29.0	14.29	24.84	4	C	0
15501			.501	.510	.699	35.6	30.6	2.29	3.98	2	C	0
15503	492	G. Bond	.500	.536	.680	36.3	32.4	11.51	20.01	1	C	p
15504	499A	G. Bond G	.509	.540	.670	37.2	32.6	14.44	25.10	4f	aMC	0
15505	494A	Hall	.500	.556	.664	36.9	33.7	22.62	39.32	4f	aM	0
15505A			.506	.557	.659	37.5	33.8	7.98	13.87	3f	aM	0
15506			.505	.569	.649	37.8	34.6	5.99	10.41	4f	aM	0
15509			.500	.598	.626	38.5	36.7	2.03	3.53	2	pM	0
15512	495A	G. Bond A	.511	.524	.681	36.8	31.6	5.37	9.33	1	C	0
15519			.514	.595	.618	39.7	36.5	12.54	21.80	3f	C	0
15521			.525	.514	.678	37.7	30.9	7.82	13.59	4	C	0
15522			.522	.522	.675	37.7	31.4	7.87	13.68	3	C	0
15523		G. Bond K	.525	.532	.664	38.3	32.1	7.87	13.68	4	C	0
15530			.538	.503	.676	38.4	30.1	2.89	5.02	2	C	0
15535			.539	.554	.634	40.3	33.6	7.85	13.64	4f	aMC	0
15535A			.530	.550	.645	39.3	33.3	9.05	15.73	4f	aMC	0
15539			.537	.597	.596	42.0	36.6	12.93	22.47	4f	aMC	0
15540	310	Kirchhoff	.542	.506	.671	38.9	30.3	14.13	24.56	2	C	0
15542			.543	.521	.659	39.5	31.3	21.28	36.99	4	C	0
15544			.541	.540	.645	39.9	32.6	8.45	14.69	4f	C	0
15547	384	Maury B	.548	.576	.607	42.0	35.1	5.25	9.13	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
15548	383	Maury A	+ .541	+ .588	+ .601	+ 41.9	+ 36.0	12.08	21.00	2f	PMC	0
15550	304	Kirchhoff C	.553	.505	.663	39.8	30.3	12.97	22.54	2f	C	0
15550A			.558	.507	.657	40.3	30.4	2.64	4.59	1	C	0
15551	305	Kirchhoff E	.557	.510	.655	40.3	30.6	13.84	24.06	4	C	0
15552	306	Kirchhoff F	.559	.522	.644	40.9	31.4	12.73	22.13	3	C	0
15558		Maury AA	.553	.585	.593	42.9	35.8	3.02	5.25	2	C	0
15563			.560	.535	.633	41.5	32.3	9.85	17.12	4	C	0
15564			.569	.542	.618	42.6	32.8	3.47	6.03	3	C	0
15566			.561	.568	.602	42.9	34.6	10.72	18.63	3	C	0
15566A			.569	.563	.599	43.5	34.2	5.07	8.81	3	C	0
15568	378	Franklin C	.567	.583	.582	44.2	35.6	8.87	15.42	2	C	0
15570			.573	.506	.645	41.6	30.3	8.82	15.33	4	C	0
15572	317	Newcomb F	.578	.522	.627	42.6	31.4	15.06	26.18	4f	C	0
15573	366	Berzelius B	.577	.539	.614	43.2	32.6	12.59	21.88	4f	C	0
15573A			.574	.531	.623	42.6	32.0	9.40	16.34	4f	C	0
15576			.575	.566	.591	44.2	34.4	2.96	5.14	2	C	0
15577			.571	.572	.589	44.1	34.8	8.48	14.74	2	C	0
15577A			.577	.577	.578	44.9	35.2	5.49	9.54	3	C	0
15577B			.578	.579	.575	45.1	35.3	12.95	22.51	3	C	0
15578			.572	.580	.580	44.6	35.4	3.65	6.34	2	C	0
15580		Newcomb Q	.588	.506	.631	42.9	30.3	8.66	15.05	3	C	0
15591			.590	.514	.623	43.4	30.9	8.98	15.61	4f	C	0
15592			.593	.528	.608	44.2	31.8	26.10	45.37	4f	C	0
15595		Berzelius FB	.594	.554	.583	45.5	33.6	17.55	30.50	4	C	0
15595A		Berzelius FA	.595	.552	.584	45.5	33.5	2.42	4.21	1	C	0
15598		Berzelius K	.595	.581	.555	46.9	35.5	3.83	6.66	1	C	0
15598A			.596	.584	.551	47.2	35.7	7.10	12.34	2	C	0
15599		Berzelius T	.599	.591	.540	47.9	36.2	5.10	8.86	1	C	0
15601			.500	.615	.610	39.3	37.9	15.65	27.20	4f	aMC	0
15602			.502	.624	.599	39.9	38.6	16.21	28.18	4	C	0
15603		Maury J	.500	.630	.594	40.0	39.0	3.58	6.22	1	C	0
15603A		Maury K	.507	.636	.582	41.0	39.4	2.86	4.97	1	C	0
15604		Maury N	.508	.648	.567	41.8	40.3	9.47	16.46	3	C	0
15604A			.502	.647	.574	41.1	40.3	2.41	4.19	2	C	0
15608			.504	.683	.529	43.6	43.0	3.25	5.65	3	C	0
15610	385	Maury	.510	.603	.613	39.7	37.0	10.14	17.62	1	C	0
15613			.511	.636	.578	41.4	39.4	2.35	4.08	1	C	0
15614		Maury L	.515	.647	.562	42.4	40.3	2.54	4.41	1	C	0
15615		Maury M	.512	.654	.557	42.5	40.8	5.15	8.95	3	C	0
15617		Oersted U	.519	.674	.526	44.6	42.3	2.69	4.68	1	C	0
15620			.522	.608	.598	41.1	37.4	2.83	4.92	1	C	0
15621		Maury E	.520	.610	.598	41.0	37.5	5.59	9.72	3	C	0
15624		Maury T	.525	.643	.558	43.2	40.0	3.26	5.67	2	C	0
15628	394A	Oersted P	.520	.690	.503	45.9	43.6	12.15	21.12	3	C	0
15630			.535	.609	.586	42.4	37.5	4.63	8.05	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
15638		Oersted A	+ .533	+ .687	+ .494	+ 47.1	+ 43.3	4.12	7.16	1	C	0
15638A	394	Oersted	.536	.683	.496	47.2	43.0	24.30	42.24	3f	C	0
15641		Franklin W	.546	.613	.571	43.7	37.8	3.68	6.40	1	C	0
15641A			.542	.611	.577	43.2	37.6	11.46	19.92	4f	C	0
15645	390	Cepheus	.543	.653	.528	45.8	40.7	22.92	39.84	2	C	pp
15645A	391	Cepheus A	.547	.656	.520	46.4	40.9	7.25	12.60	1	C	0
15647			.549	.678	.489	48.3	42.6	2.15	3.74	2	C	0
15650		Franklin H	.551	.603	.577	43.6	37.0	3.33	5.79	1	C	0
15653			.558	.631	.539	45.9	39.1	15.89	27.62	4	C	0
15656			.555	.665	.500	47.9	41.6	28.59	49.69	5	C	0
15657			.551	.671	.496	47.9	42.1	14.35	24.94	5	C	0
15664		Franklin G	.569	.644	.511	48.0	40.0	3.98	6.92	1	C	0
15666			.564	.666	.488	49.1	41.7	2.39	4.15	2	C	0
15668		Chevallier K	.563	.688	.458	50.8	43.4	3.32	5.77	1	C	0
15670			.573	.603	.555	45.9	37.0	27.15	47.19	5	C	0
15672	374	Franklin	.576	.627	.524	47.6	38.8	32.38	56.28	2	C	P
15678	363B	Shuckburgh C	.577	.689	.439	52.7	43.5	7.12	12.38	1	C	0
15680	381	Franklin F	.587	.609	.533	47.7	37.5	21.61	37.56	4	C	0
15687	363	Shuckburgh	.586	.677	.445	52.7	42.6	22.16	38.52	3	C	0
15692		Franklin N	.595	.623	.508	49.5	38.5	8.01 10.20	13.92 17.73	4	C	0
15704			.501	.749	.434	49.1	48.5	2.21	3.84	1	C	0
15716		Atlas P	.516	.761	.393	52.6	49.5	15.55	27.03	4f	C	0
15721		Atlas AA	.525	.712	.466	48.3	45.3	4.04	7.02	1	C	0
15727	409B	Endymion H	.523	.778	.348	56.3	51.0	4.75	8.26	2	C	0
15731	446	Atlas A	.535	.711	.456	49.5	45.3	12.87	22.37	1	C	p
15732			.532	.726	.436	50.6	46.5	2.47	4.29	2	C	0
15732A			.536	.720	.441	50.5	46.0	9.52	16.55	4	C	0
15742		Chevallier M	.541	.720	.435	51.2	46.0	9.22	16.03	3f	C	0
15742A			.549	.722	.421	52.5	46.2	2.85	4.95	2	C	0
15742B			.542	.723	.428	51.6	46.3	2.80	4.87	2	C	0
15749	407	Endymion D	.541	.792	.283	62.3	52.3	11.69	20.32	2	C	0
15750	451	Chevallier B	.555	.709	.435	51.9	45.1	7.17	12.46	1	C	0
15750A	450	Chevallier	.552	.706	.444	51.2	44.9	30.10	52.32	4f	C	0
15752			.556	.722	.412	53.4	46.2	7.89	13.71	3f	aMC	0
15754			.550	.740	.387	54.8	47.7	60.88	105.82	4f	aMC	0
15755			.559	.750	.354	57.6	48.5	2.98	5.18	2	C	0
15763			.569	.731	.377	56.4	46.9	3.28	5.70	1	pM	0
15769		Humboldtianum W	.566	.796	.215	69.2	52.7	5.94	10.32	1	C	0
15772	451A	Chevallier F	.578	.721	.382	56.5	46.1	5.16	8.97	1	pM	0
15779	402E	Humboldtianum E	.572	.792	.213	69.5	52.3	4.06	7.06	1	C	0
15779A	402D	Humboldtianum D	.573	.795	.199	70.8	52.6	4.87	8.46	1	C	0
15783	397I	Mercurius J	.583	.733	.350	58.9	47.1	5.33	9.26	2	C	0
15783A	397	Mercurius C	.582	.737	.344	59.4	47.4	15.15	26.33	3f	C	0
15785	397F	Mercurius H	.585	.757	.291	63.5	49.2	5.64	9.80	1	C	0
15792		Mercurius CA	.591	.728	.347	59.5	46.7	15.04	26.14	3f	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
15799	402C	Humboldtianum C	+ .596	+ .790	+ .144	+ 76.4	+ 52.1	12.06	20.96	1	C	0
15811	404	Endymion A	.514	.816	.264	62.7	54.6	17.35	30.16	2	C	0
15815		Belkovich A	.519	.854	.036	85.9	58.6	33.29	57.86	3f	aM	0
15815A		Belkovich B	.515	.856	.045	84.9	58.8	7.34	12.76	2	aM	0
15820			.527	.800	.287	61.4	53.1	7.44	12.93	3	C	0
15822			.526	.821	.222	67.1	55.1	3.55	6.17	1	C	0
15830			.532	.801	.275	62.7	53.2	5.14	8.93	2	C	0
15832	402G	Humboldtianum G	.537	.823	.185	70.9	55.3	5.18	9.00	1	C	0
15840	409A	Endymion E	.543	.805	.239	66.2	53.6	10.38	18.04	2	C	0
15881		Humboldtianum F	.580	.814	.032	86.8	54.4	7.82	13.59	1	pMC	0
16006			.600	.060	.798	36.9	3.4	2.06	3.58	1	pM	0
16032			.637	.029	.770	39.5	1.6	2.20	3.82	2	pM	0
16032A			.633	.026	.774	39.2	1.4	27.92	48.52	5f	aM	0
16040			.643	.009	.766	40.0	0.5	14.56	25.31	5f	aMC	0
16042			.642	.023	.766	39.9	1.3	2.20	3.82	2	C	0
16046	221	Taruntius F	.648	.069	.759	40.5	3.9	6.18	10.74	1	pM	0
16049	219	Taruntius E	.643	.096	.760	40.2	5.5	6.49	11.28	1	pM	0
16050		Lubbock S	.659	.008	.752	41.2	0.4	13.98	24.30	4f	aMC	0
16052			.650	.025	.760	40.5	1.4	16.33	28.38	4f	aMC	0
16054			.656	.045	.753	41.0	2.5	5.10	8.86	3	aMC	0
16059		Taruntius EB	.656	.092	.749	41.2	5.2	2.70	4.69	1	pM	0
16062			.661	.020	.750	41.3	1.1	2.60	4.52	2	C	0
16063			.669	.032	.743	42.0	1.8	8.02	13.94	3f	aMC	0
16065	237A	Secchi A	.661	.057	.748	41.4	3.2	2.90	5.04	1	pM	0
16065A			.669	.055	.741	42.0	3.1	2.59	4.50	2	pM	0
16066	237B	Secchi B	.661	.064	.748	41.4	3.6	3.02	5.25	1	pM	0
16071		Secchi U	.672	.019	.740	42.2	1.0	3.29	5.72	1	pM	0
16071A			.672	.011	.740	42.2	0.6	3.71	6.45	1	pMC	0
16078		Taruntius EA	.671	.086	.736	42.3	4.9	2.85	4.95	1	pM	0
16083			.682	.037	.730	43.0	2.1	9.30	16.16	3	C	0
16084	237	Secchi	.688	.042	.724	43.5	2.4	14.07	24.46	2	C	0
16096			.690	.066	.721	43.7	3.7	2.66	4.62	2	C	0
16097			.694	.076	.716	44.1	4.3	2.30	4.00	1	C	0
16097A			.695	.078	.715	44.1	4.4	2.60	4.52	1	C	0
16099	223	Taruntius L	.697	.095	.711	44.4	5.4	7.16	12.45	2	C	0
16115		Cauchy E	.616	.154	.773	38.5	8.8	2.06	3.58	1	pM	0
16116	262	Cauchy	.616	.167	.770	38.6	9.6	7.11	12.36	1	pM	0
16124		Cauchy C	.621	.143	.771	38.8	8.2	2.40	4.17	2	pM	0
16132			.639	.124	.759	40.0	7.1	18.94	32.92	4f	aMC	0
16137	263	Cauchy D	.637	.174	.751	40.3	10.0	5.42	9.42	1	pM	0
16149			.642	.192	.742	40.8	11.0	17.63	30.64	5f	aM	0
16155		Cauchy V	.654	.156	.740	41.4	8.9	2.80	4.87	1	pM	0
16158		Cauchy W	.653	.184	.735	41.6	10.6	2.26	3.93	1	pM	0
16165		Cauchy U	.665	.153	.731	42.2	8.8	2.60	4.52	1	C	0
16172	236	Taruntius M	.679	.128	.723	43.2	7.3	13.78	23.95	3	aMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
16173		Taruntius MB	+ .675	+ .133	+ .726	+ 42.9	+ 7.6	2.85	4.95	1	C	0
16174			.677	.145	.722	43.1	8.3	2.20	3.82	1	C	0
16175	222	Taruntius J	.675	.155	.721	43.0	8.9	5.40	9.39	3	C	0
16182		Taruntius MA	.686	.120	.718	43.7	6.8	2.89	5.02	2	pM	0
16186		da Vinci A	.687	.168	.707	44.1	9.6	10.30	17.90	2	C	0
16189			.683	.196	.704	44.1	11.3	2.79	4.85	1	pMC	0
16190			.695	.109	.711	44.3	6.2	33.40	58.05	5	C	0
16196	236A	da Vinci	.698	.160	.698	45.0	9.2	18.03	31.34	3	C	P
16199			.697	.195	.690	45.2	11.2	3.87	6.73	3	pMC	0
16201	262A	Cauchy A	.600	.210	.772	37.8	12.1	5.40	9.39	2	pM	0
16204		Lyell B	.602	.248	.759	38.4	14.3	3.09	5.37	1	pM	0
16214	201A	Lyell A	.618	.248	.746	39.6	14.3	4.50	7.82	2	pM	0
16216		Lyell C	.612	.262	.746	39.3	15.1	2.71	4.71	1	pM	0
16227			.629	.270	.729	40.7	15.6	8.56	14.88	3	C	0
16228	214A	Franz	.620	.285	.731	40.3	16.5	14.65	25.46	4f	aMC	0
16228A	205	Proclus E	.628	.286	.724	40.9	16.6	7.00	12.17	3	C	0
16229	204	Proclus D	.626	.300	.720	41.0	17.4	7.38	12.83	1	pMC	0
16233	201	Lyell	.633	.236	.737	40.6	13.6	18.52	32.19	3f	aMC	0
16234			.636	.240	.733	40.9	13.8	2.70	4.69	1	C	0
16236		Lyell K	.631	.264	.729	40.8	15.3	3.08	5.35	1	C	0
16238			.637	.287	.715	41.6	16.6	10.91	18.96	4	C	0
16238A			.630	.282	.724	41.0	16.3	4.86	8.45	2	C	0
16245		Lyell D	.640	.256	.724	41.4	14.8	9.21	16.01	3	C	0
16246			.645	.267	.716	42.0	15.4	2.79	4.85	2	C	0
16248			.645	.285	.709	42.2	16.5	3.69	6.41	2	C	0
16249			.645	.292	.706	42.4	16.9	3.69	6.41	4	C	0
16252			.658	.222	.720	42.4	12.8	3.34	5.81	1	C	0
16252A			.655	.223	.722	42.2	12.8	2.82	4.90	1	C	0
16253	199	Proclus A	.654	.231	.720	42.2	13.3	8.48	14.74	1	C	0
16258			.650	.285	.704	42.6	16.5	3.32	5.77	2	C	0
16258A			.654	.282	.702	42.9	16.3	3.74	6.50	2	C	0
16262	211A	Proclus G	.661	.220	.717	42.6	12.7	17.11	29.74	4	C	0
16262A		Proclus GA	.664	.221	.714	42.9	12.7	13.12 8.40	22.80 14.60	3	C	0
16269		Proclus J	.664	.294	.688	44.0	17.0	3.19	5.54	1	C	0
16272	203	Proclus C	.672	.224	.706	43.5	12.9	5.62	9.77	1	C	0
16279		Proclus Y	.673	.300	.676	44.8	17.4	3.59	6.24	2	C	0
16280			.685	.205	.699	44.4	11.8	2.64	4.59	1	C	0
16283			.689	.238	.685	45.1	13.7	9.43	16.39	4	C	p
16287		Proclus R	.686	.273	.674	45.4	15.8	15.96	27.74	4	C	0
16288		Proclus M	.680	.283	.676	45.1	16.4	4.86	8.45	2	C	0
16294	206	Proclus F	.697	.246	.674	45.9	14.2	5.27	9.16	1	C	0
16298		Proclus K	.692	.284	.664	46.1	16.4	9.32	16.20	3	C	0
16299		Proclus L	.692	.294	.659	46.3	17.0	5.42	9.42	3	C	0
16300	274	Maraldi M	.602	.300	.740	39.1	17.4	5.04	8.76	1	pM	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.R.
16302			+ .609	+ .328	+ .722	+ 40.1	+ 19.1	2.99	5.20	1	pMC	0
16305			.603	.357	.713	40.2	20.9	2.43	4.22	1	pM	0
16306		Macrobius K	.601	.366	.711	40.2	21.4	7.57	13.16	2f	aMC	0
16308		Macrobius N	.603	.387	.698	40.8	22.7	3.44	5.98	1	C	0
16309			.608	.399	.686	41.5	23.5	14.75 9.57	25.64 16.63	3	C	0
16313	182	Macrobius A	.610	.334	.719	40.3	19.5	11.54	20.06	1	pMC	0
16315	183	Macrobius B	.611	.357	.707	40.8	20.9	9.33	16.22	1	pMC	0
16319		Macrobius X	.619	.390	.682	42.2	22.9	2.49	4.33	2	C	0
16319A			.615	.392	.684	41.9	23.0	2.39	4.15	2	C	0
16326		Macrobius L	.624	.366	.690	42.1	21.4	9.01	15.66	3f	aMC	0
16326A			.622	.363	.694	41.8	21.2	33.83	58.80	4f	aMC	0
16327			.621	.377	.687	42.1	22.1	2.22	3.86	1	pMC	0
16327A			.620	.371	.691	41.8	21.7	3.37	5.86	3	aMC	0
16333		Macrobius AA	.633	.337	.697	42.2	19.6	3.88	6.74	1	C	0
16333A			.631	.338	.698	42.1	19.7	3.05	5.30	2	C	0
16334			.635	.344	.692	42.5	20.1	3.29	5.72	2	C	0
16334A			.630	.342	.697	42.1	19.9	3.72	6.47	3	C	0
16344			.643	.342	.685	43.1	19.9	3.57	6.21	2	aMC	0
16355			.656	.356	.666	44.5	20.8	3.14	5.46	3	C	0
16360		Proclus Z	.670	.308	.675	44.7	17.9	3.40	5.91	1	C	0
16365	181	Macrobius C	.661	.356	.661	45.0	20.8	5.56	9.66	1	C	0
16370		Proclus X	.675	.304	.672	45.1	17.6	3.48	6.05	1	C	0
16376	180	Macrobius	.671	.363	.647	46.0	21.2	36.84	64.03	2	C	P
16377			.678	.376	.632	47.0	22.0	2.08	3.62	1	C	0
16380		Proclus W	.688	.301	.660	46.1	17.5	4.22	7.33	1	C	0
16381	185	Macrobius D	.689	.315	.653	46.5	18.3	8.45	14.69	2	C	0
16391			.695	.311	.648	46.9	18.1	23.65	41.11	4	C	0
16392	186	Macrobius E	.691	.321	.648	46.8	18.7	5.81	10.10	2	C	0
16394		Macrobius Q	.692	.349	.632	47.5	20.4	4.87	8.46	2	C	0
16396	184	Tisserand	.694	.365	.621	48.1	21.4	21.02	36.53	3	C	0
16397			.696	.374	.613	48.6	21.9	6.27	10.90	4	C	0
16398	187	Macrobius F	.692	.382	.613	48.4	22.4	6.58	11.44	1	C	0
16398A			.699	.388	.601	49.3	22.8	6.98	12.13	3	aMC	0
16399		Macrobius S	.699	.395	.596	49.5	23.2	15.04	26.14	3f	aMC	0
16399A			.699	.390	.599	49.3	22.9	2.78	4.83	1	pMC	0
16409	311	Newcomb	.600	.498	.626	43.7	29.8	22.69	39.44	2	C	P
16409A		Newcomb A	.602	.490	.630	43.6	29.3	10.84	18.84	4	C	0
16410		Macrobius Y	.616	.400	.679	42.2	23.5	2.88	5.01	1	C	0
16410A			.614	.408	.676	42.2	24.0	2.17	3.77	1	C	0
16411		Macrobius Z	.617	.412	.670	42.6	24.3	3.10	5.39	1	C	0
16411A			.618	.414	.668	42.7	24.4	3.19	5.54	1	C	0
16412		Macrobius V	.619	.429	.658	43.2	25.4	2.78	4.83	1	pM	0
16412A		Macrobius U	.616	.422	.665	42.8	24.9	3.58	6.22	2	pMC	0
16417	313	Newcomb G	.619	.471	.628	44.5	28.0	11.11	19.31	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
16418	315	Newcomb J	+ .612	+ .481	+ .628	+ 44.2	+ 28.7	13.13	22.82	2	C	P
16427			.621	.474	.624	44.8	28.2	2.48	4.31	1	C	0
16427A		Newcomb B	.629	.475	.615	45.6	28.3	12.99	22.58	4	C	0
16428		Newcomb C	.621	.487	.614	45.3	29.1	16.87	29.32	4f	aMC	0
16431		Macrobius W	.638	.418	.647	44.6	24.7	11.33	19.69	4f	aMC	0
16446	177	Tralles A	.650	.461	.604	47.0	27.4	10.48	18.22	1	C	0
16449	315A	Newcomb P	.643	.491	.588	47.5	29.4	37.50 50.19	65.18 87.24	4f	aMC	0
16457			.653	.470	.594	47.7	28.0	4.16	7.23	2	C	0
16470			.673	.401	.622	47.2	23.6	2.14	3.72	1	C	0
16470A			.670	.407	.621	47.1	24.0	3.02	5.25	3	C	0
16476	178A	Tralles C	.672	.467	.575	49.4	27.8	4.21	7.32	1	C	0
16478		Debes B	.676	.485	.555	50.6	29.0	10.85	18.86	3	C	0
16480		Macrobius T	.686	.404	.605	48.5	23.8	16.52	28.71	4f	aMC	0
16485	178	Tralles B	.688	.458	.563	50.7	27.2	6.37	11.07	1	C	0
16488		Debes A	.686	.481	.546	51.4	28.7	19.15	33.29	3	C	0
16489	179	Debes	.683	.493	.539	51.7	29.5	17.70	30.77	3	C	0
16490			.697	.402	.594	49.5	23.7	4.99	8.67	3	pMC	0
16501			.607	.515	.605	45.0	30.9	10.23	17.78	4f	C	0
16502			.609	.522	.597	45.5	31.4	10.39	18.06	4f	C	0
16504	312	Berzelius F	.605	.542	.583	46.0	32.8	7.00	12.17	1	C	0
16504A			.604	.546	.581	46.1	33.0	19.07	33.15	4	C	0
16506		Geminus W	.608	.563	.560	47.3	34.2	3.55	6.17	1	C	0
16506A			.602	.567	.562	46.9	34.5	15.80	27.46	4f	C	0
16509	365	Berzelius A	.603	.599	.527	48.8	36.7	3.85	6.69	1	C	0
16509A			.604	.591	.535	48.4	36.2	12.00	20.86	3	C	0
16509B			.606	.597	.526	49.0	36.6	9.54	16.58	4	C	0
16517			.619	.579	.531	49.3	35.3	6.15	10.69	4	C	0
16518			.617	.583	.529	49.4	35.6	3.89	6.76	1	C	0
16521	327	Geminus Z	.625	.511	.590	46.6	30.7	15.10	26.25	4	C	0
16524		Geminus EB	.624	.548	.557	48.2	33.2	4.21	7.32	1	C	0
16525	326	Geminus E	.624	.552	.553	48.4	33.5	38.38	66.71	5	C	0
16526			.627	.560	.542	49.1	34.0	16.20	28.16	4f	C	0
16527			.621	.572	.536	49.2	34.8	9.06	15.75	4f	C	0
16529	364	Berzelius	.623	.596	.507	50.8	36.5	29.26	50.86	3	C	0
16530	325	Geminus D	.633	.509	.583	47.3	30.5	9.06	15.75	1	C	0
16531			.638	.511	.576	47.9	30.7	2.55	4.43	1	C	0
16532	328	Geminus N	.631	.521	.575	47.6	31.3	13.67	23.76	4	C	0
16532A		Geminus M	.636	.529	.562	48.5	31.9	6.24	10.85	2	C	0
16537			.637	.575	.513	51.1	35.0	37.85	65.79	4	C	0
16541	325A	Geminus G	.644	.513	.568	48.6	30.8	7.89	13.71	1	pMC	0
16542	324A	Geminus H	.642	.524	.560	48.9	31.6	8.33	14.48	2	pMC	0
16543		Geminus EA	.640	.538	.549	49.3	32.5	21.14 28.18	36.74 48.98	4	C	0
16545			.649	.557	.518	51.3	33.8	12.09	21.01	3	C	0
16549	333	Messala A	.648	.596	.474	53.8	36.5	15.02	26.11	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
16553	322	Geminus F	+ .659	+ .532	+ .532	+ 51.1	+ 32.1	12.57	21.85	3	C	0
16553A			.653	.539	.532	50.8	32.6	7.16	12.45	2	C	0
16554			.650	.540	.535	50.5	32.6	4.75	8.26	3	C	0
16556	323	Geminus B	.654	.562	.506	52.2	34.1	5.68	9.87	2	C	0
16558			.651	.581	.489	53.1	35.5	5.81	10.10	3	C	0
16563			.661	.531	.530	51.2	32.0	4.99	8.67	2	C	0
16563A		Geminus FA	.663	.533	.526	51.5	32.2	5.18	9.00	2	C	0
16567			.662	.570	.487	53.6	34.7	25.67	44.62	5	C	0
16572	321	Geminus A	.670	.523	.527	51.8	31.5	8.87	15.42	2	C	0
16574			.679	.541	.496	53.8	32.7	12.90	22.42	4	C	0
16586	320	Geminus	.689	.566	.453	56.6	34.4	49.18	85.48	1	C	P
16600			.606	.600	.522	49.2	36.8	9.52	16.55	3	C	0
16603		Franklin K	.607	.630	.484	51.4	39.0	11.54	20.06	3	C	0
16603A			.604	.638	.478	51.6	39.6	9.05	15.73	4f	C	0
16604			.602	.644	.472	51.8	40.0	9.06 12.63	15.75 21.95	5f	aMC	0
16608	363A	Shuckburgh A	.602	.683	.414	55.5	43.0	10.68	18.56	2	C	R
16609	363C	Shuckburgh E	.602	.695	.393	56.8	44.0	5.26	9.14	1	C	0
16609A			.608	.694	.386	57.6	43.9	3.06	5.32	1	C	0
16611			.618	.616	.488	51.6	38.0	10.59	18.41	4	C	0
16615	360	Hooke	.616	.658	.433	54.8	41.1	21.17	36.80	3f	C	0
16621		Berzelius W	.628	.618	.473	53.0	38.1	3.63	6.31	1	C	0
16621A			.625	.619	.476	52.7	38.2	2.26	3.93	2	C	0
16624			.623	.647	.440	54.7	40.3	4.58	7.96	3	C	0
16625	362	Hooke D	.627	.652	.426	55.7	40.6	11.10	19.29	1	C	0
16626			.623	.665	.412	56.5	41.6	10.78	18.74	4	C	0
16627			.629	.679	.379	58.9	42.7	2.82	4.90	1	pM	0
16637	355A	Schumacher B	.638	.671	.378	59.3	42.1	13.84	24.06	3f	aMC	0
16639	359	Carrington	.636	.694	.337	62.0	43.9	17.04	29.62	2	C	0
16645	339B	Messala K	.643	.657	.394	58.5	41.0	5.01	8.71	4	C	0
16645A			.646	.654	.394	58.6	40.8	10.19	17.71	3	C	0
16647	355	Schumacher	.644	.674	.362	60.6	42.3	34.85	60.57	3f	aMC	0
16653			.655	.639	.403	58.3	39.7	15.55	27.03	3f	aMC	0
16656			.654	.664	.362	61.0	41.6	5.95	10.34	3	C	0
16661			.664	.619	.419	57.7	38.2	5.25	9.13	2	C	0
16665	339A	Messala J	.660	.658	.363	61.2	41.1	8.57	14.90	2	C	0
16668		Zeno P	.664	.687	.295	66.0	43.3	6.51	11.32	1	pMC	0
16669			.663	.699	.268	67.9	44.3	16.32	28.37	5	C	0
16672			.675	.627	.389	60.0	38.8	6.78	11.78	3	C	0
16672A			.679	.625	.385	60.4	38.6	5.04	8.76	3	C	0
16673	332	Messala	.670	.632	.389	59.8	39.1	71.41	124.12	3	C	0
16673A			.677	.630	.380	60.6	39.0	6.09	10.59	3	C	0
16677			.671	.679	.298	66.0	42.7	8.39	14.58	3f	aMC	0
16678	353A	Zeno K	.673	.680	.291	66.6	42.8	10.07	17.50	2	pMC	0
16678A		Zeno W	.673	.686	.277	67.6	43.3	5.47	9.51	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
16680	334	Messala B	+ .687	+ .607	+ .399	+ 59.8	+ 37.3	10.36	18.01	1	C	0
16683			.688	.638	.346	63.3	39.6	13.34	23.19	3	C	0
16685	335	Messala C	.688	.656	.310	65.7	40.9	6.65	11.56	1	C	0
16687		Zeno U	.688	.675	.267	68.8	42.4	9.36	16.27	3	C	0
16688		Zeno V	.682	.684	.259	69.2	43.1	12.71	22.09	3	C	0
16689	351	Zeno B	.680	.695	.234	71.0	44.0	21.25	36.94	3	C	0
16689A	354A	Zeno G	.689	.694	.209	73.1	43.9	6.15	10.69	1	C	0
16694	337	Messala E	.694	.643	.324	64.9	40.0	23.08	40.12	3f	C	0
16694A			.697	.647	.309	66.0	40.3	3.85	6.69	2	C	0
16694B			.699	.647	.305	66.4	40.3	3.62	6.29	2	C	0
16699	354B	Zeno J	.697	.697	.168	76.4	44.1	7.46	12.97	1	C	0
16699A			.693	.691	.206	73.4	43.7	6.02	10.46	2	C	0
16706			.604	.764	.227	69.4	49.8	9.98 17.01	17.35 29.57	4	C	0
16707		Mercurius M	.606	.776	.175	73.9	50.8	22.96	39.91	2	C	0
16707A			.606	.773	.188	72.7	50.6	3.33	5.79	2	C	0
16708	402B	Humboldtianum B	.600	.788	.138	77.0	51.9	7.01	12.18	2	C	0
16709	402A	Humboldtianum A	.603	.791	.103	80.2	52.2	15.39	26.75	3	C	0
16711			.617	.711	.337	61.3	45.3	2.69	4.68	2	C	0
16716	397C	Mercurius E	.619	.763	.186	73.2	49.7	16.69	29.01	2	C	0
16718			.611	.789	.064	83.9	52.0	8.65	15.03	3	C	0
16721	397D	Mercurius F	.627	.710	.321	62.9	45.2	9.72	16.89	3	C	0
16721A	397H	Mercurius L	.627	.718	.302	64.2	45.8	6.81	11.84	1	C	0
16721B			.621	.713	.326	62.3	45.4	6.25	10.86	2	C	0
16722	396	Mercurius	.629	.726	.278	66.1	46.5	38.89	67.60	2	C	p
16727		Humboldtianum L	.625	.776	.085	82.2	50.8	23.04	40.05	2	C	0
16727A			.626	.772	.110	80.0	50.5	10.71	18.62	3	C	0
16730	397E	Mercurius G	.636	.709	.305	64.4	45.1	7.64	13.28	2	C	0
16733	396A	Mercurius B	.636	.736	.232	69.9	47.3	7.49	13.02	1	C	0
16736		Humboldtianum K	.639	.762	.105	80.6	49.6	11.12	19.33	1	C	0
16741			.644	.719	.261	67.9	45.9	15.97	27.76	5	C	0
16741A		Mercurius DA	.649	.712	.268	67.5	45.3	5.84	10.15	2	C	0
16742	397B	Mercurius D	.645	.721	.253	68.5	46.1	28.84	50.13	5	C	0
16743	397G	Mercurius K	.648	.736	.196	73.1	47.3	12.01	20.88	2	C	0
16744	397A	Mercurius A	.642	.743	.189	73.5	47.9	11.22	19.50	2	C	0
16744A			.646	.744	.171	75.1	48.0	4.85	8.43	1	C	0
16751			.658	.718	.227	70.9	45.8	6.93	12.05	3	C	0
16752			.651	.726	.222	71.1	46.5	7.83	13.61	3	C	0
16752A			.655	.721	.226	70.9	46.1	7.52	13.07	3	C	0
16760	350	Zeno A	.671	.700	.244	69.9	44.4	25.21	43.82	3	C	0
16760A	351A	Zeno D	.670	.707	.226	71.3	44.9	8.96	15.57	3	C	0
16761			.664	.711	.231	70.7	45.3	9.97	17.33	3	C	0
16762			.664	.720	.202	73.0	46.0	8.05	13.99	1	C	0
16770	354	Zeno	.674	.709	.207	72.8	45.1	37.50	65.18	3	C	0
16773			.679	.733	.041	86.5	47.1	10.96	19.05	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
16781			+ .685	+ .712	+ .154	+ 77.2	+ 45.3	35.36	61.46	4f	C	0
16791			.696	.711	.100	81.7	45.3	7.24	12.58	1	C	0
16792			.690	.721	.064	84.7	46.1	8.53	14.83	2	C	0
17006		Secchi G	.700	.069	.711	44.5	3.9	3.51	6.10	2	pMC	0
17009			.701	.091	.707	44.7	5.2	3.53	6.14	3	C	0
17025		Taruntius B	.725	.058	.686	46.5	3.3	4.02	6.99	1	pM	0
17026		Taruntius TA	.726	.069	.684	46.6	3.9	10.56	18.35	3f	aMC	0
17029	215	Taruntius	.722	.098	.685	46.5	5.6	32.19	55.95	2	pMC	P
17036		Taruntius T	.735	.060	.675	47.4	3.4	5.70	9.91	4f	aM	0
17053	224	Taruntius G	.759	.033	.650	49.4	1.8	5.71	9.92	1	pM	0
17059		Taruntius W	.752	.094	.652	49.0	5.3	11.36	19.75	4f	aMC	0
17060	225	Taruntius H	.764	.006	.645	49.8	0.3	4.86	8.45	1	pM	0
17060A			.768	.002	.640	50.1	0.1	2.03	3.53	2	pM	0
17067		Taruntius V	.761	.077	.644	49.7	4.4	11.31	19.66	4f	aM	0
17069		Taruntius U	.763	.097	.639	50.0	5.5	4.91	8.53	2f	aM	0
17080	223A	Taruntius P	.783	.002	.622	51.5	0.1	4.16	7.23	1	pM	0
17081	226	Taruntius K	.783	.011	.622	51.5	0.6	3.01	5.23	1	pM	0
17098			.798	.087	.596	53.2	4.9	2.99	5.20	3	C	0
17100		Taruntius CA	.707	.105	.699	45.3	6.0	2.88	5.01	2	C	0
17100A		Taruntius CB	.701	.104	.706	44.8	5.9	2.03	3.53	2	C	0
17103	234	Taruntius Z	.701	.132	.701	45.0	7.5	9.82	17.07	4	aMC	0
17110	220	Taruntius C	.714	.108	.692	45.9	6.2	6.22	10.81	1	pMC	0
17115	218	Taruntius D	.714	.154	.683	46.2	8.8	8.72	15.16	4f	aMC	0
17130		Taruntius R	.737	.107	.667	47.8	6.1	3.03	5.27	2	pMC	0
17135			.733	.151	.663	47.8	8.6	2.53	4.40	2	pMC	0
17136		Lick N	.731	.168	.661	47.8	9.6	12.93	22.47	4	C	0
17141		Taruntius Q	.740	.117	.662	48.1	6.7	5.92	10.29	3f	aM	0
17145		Lick L	.746	.152	.648	49.0	8.7	3.01	5.23	1	C	0
17152	216	Taruntius A	.758	.126	.640	49.8	7.2	7.02	12.20	1	pMC	0
17156		Lick H	.755	.167	.634	49.9	9.6	5.77	10.03	3	C	0
17157		Lick F	.756	.175	.631	50.1	10.0	12.63	21.95	4f	C	0
17159			.756	.197	.624	50.4	11.3	11.76	20.44	4	C	0
17159A		Glaisher V	.751	.192	.632	49.9	11.0	7.15	12.43	3	C	0
17167		Lick G	.764	.176	.621	50.9	10.1	3.09	5.37	1	C	0
17168		Lick E	.760	.184	.623	50.6	10.6	4.71	8.19	1	C	0
17169		Lick B	.767	.194	.612	51.4	11.1	13.52	23.50	4f	C	0
17171			.773	.114	.624	51.0	6.5	2.09	3.63	2	C	0
17174			.779	.149	.609	51.9	8.5	2.69	4.68	2	C	0
17175			.771	.154	.618	51.2	8.8	2.33	4.05	1	C	0
17178		Lick BA	.773	.189	.606	51.9	10.8	8.00	13.91	4	C	0
17179		Lick C	.772	.199	.604	51.9	11.4	5.35	9.30	2	C	0
17182	217	Taruntius Y	.787	.127	.604	52.5	7.2	6.21	10.79	3	C	0
17182A		Taruntius YA	.789	.128	.601	52.7	7.3	4.94	8.59	2	C	0
17184			.786	.141	.602	52.5	8.1	3.85	6.69	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
17185			+ .781	+ .154	+ .605	+ 52.2	+ 8.8	3.31	5.75	1	C	0
17187		Lick K	.784	.177	.595	52.8	10.1	3.36	5.84	1	C	0
17189A		Lick A	.781	.199	.592	52.8	11.4	12.94	22.49	4f	aMC	0
17192		Taruntius XA	.797	.125	.591	53.4	7.1	5.81	10.10	1	C	0
17193	235	Taruntius X	.792	.134	.596	53.0	7.7	13.03	22.65	4f	C	0
17195		Picard P	.796	.154	.585	53.6	8.8	3.99	6.94	2	C	0
17196	110	Picard G	.794	.166	.585	53.6	9.5	18.36	31.91	4f	C	0
17196A		Picard GA	.793	.160	.588	53.4	9.2	2.39	4.15	1	aMC	0
17197		Picard M	.796	.176	.579	53.9	10.1	5.11	8.88	2	C	0
17197A		Picard L	.799	.179	.574	54.3	10.3	4.46	7.75	1	C	0
17197B		Picard GB	.798	.171	.578	54.0	9.8	4.03	7.00	1	pMC	0
17198		Picard N	.791	.183	.584	53.5	10.5	11.37	19.76	4	aMC	0
17203			.708	.235	.666	46.7	13.5	4.02	6.99	2	C	0
17206		Proclus T	.702	.266	.661	46.7	15.4	12.19	21.19	4	C	0
17207	198	Proclus	.702	.278	.656	46.9	16.1	16.13	28.04	1	C	0
17212		Glaisher N	.718	.227	.658	47.4	13.1	3.82	6.64	1	C	0
17213			.711	.230	.665	46.9	13.2	12.30	21.38	4	C	0
17216		Proclus U	.717	.262	.646	47.9	15.1	10.37	18.02	4f	aMC	0
17217	213A	Proclus S	.715	.270	.645	47.9	15.6	10.06	17.49	3f	aMC	0
17221		Glaisher W	.721	.215	.659	47.5	12.4	20.78 26.36	36.12 45.82	5	C	0
17225		Proclus V	.722	.255	.643	48.3	14.7	10.84	18.84	4f	aMC	0
17226	(104A)	Proclus P	.724	.264	.637	48.6	15.3	17.14	29.79	3f	aMC	0
17227			.724	.272	.634	48.7	15.7	3.11	5.41	1	C	0
17231		Glaisher E	.738	.219	.638	49.1	12.6	12.14	21.10	3	C	0
17232	200	Glaisher	.740	.228	.633	49.4	13.1	9.16	15.92	1	C	0
17232A		Glaisher EA	.736	.222	.640	49.0	12.8	2.33	4.05	1	C	0
17232B		Glaisher M	.731	.227	.644	48.6	13.1	3.03	5.27	1	C	0
17233		Glaisher H	.739	.238	.630	49.5	13.7	2.90	5.04	1	C	0
17233A		Glaisher L	.732	.232	.641	48.8	13.4	3.98	6.92	1	C	0
17235A		Glaisher X	.732	.250	.634	49.1	14.4	15.60	27.12	5f	aMC	0
17235		Proclus PB	.733	.258	.629	49.3	14.9	4.54	7.89	3	pMC	0
17236		Proclus PA	.731	.264	.629	49.2	15.3	3.43	5.96	2	pMC	0
17241		Glaisher G	.743	.214	.634	49.5	12.3	11.55	20.08	4	C	0
17241A		Glaisher B	.749	.218	.626	50.1	12.5	10.17	17.68	3	C	0
17243		Glaisher F	.744	.236	.625	49.9	13.6	3.73	6.48	1	C	0
17243A			.741	.233	.630	49.6	13.4	6.82	11.85	3	C	0
17247	(96)	Yerkes E	.743	.274	.611	50.5	15.9	5.70	9.91	1	pMC	0
17250		Glaisher C	.753	.209	.624	50.3	12.0	14.81	25.74	4	C	0
17252		Glaisher A	.755	.223	.617	50.7	12.8	10.67	18.55	2	C	0
17255	114	Yerkes	.759	.252	.600	51.6	14.5	20.79	36.14	4f	aMC	0
17260		Glaisher T	.762	.204	.615	51.1	11.7	4.11	7.14	2	C	0
17261		Glaisher Q	.765	.211	.608	51.5	12.1	5.36	9.32	3	C	0
17261A		Glaisher D	.761	.211	.613	51.1	12.1	3.82	6.64	2	C	0
17271	111	Lick	.777	.214	.592	52.6	12.3	18.05	31.37	4f	aMC	0
17272	112	Lick D	.775	.228	.589	52.7	13.1	7.91	13.75	1	pMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.E.
17285	106	Picard	+ .789	+ .251	+ .561	+ 54.5	+ 14.5	12.98	22.56	1	pMC	0
17301			.707	.314	.634	48.1	18.3	10.33	17.96	3	C	0
17307		Tisserand D	.705	.370	.605	49.3	21.7	3.79	6.59	1	C	0
17307A			.703	.374	.605	49.2	21.9	8.76	15.23	3f	C	0
17314		Tisserand A	.712	.348	.610	49.4	20.3	13.97	24.28	3	C	0
17319			.712	.393	.582	50.7	23.1	7.77	13.51	4f	aMC	0
17319A			.715	.398	.575	51.2	23.4	6.58	11.44	5f	aMC	0
17322	105	Peirce C	.724	.322	.610	49.8	18.7	10.62	18.46	4f	C	0
17323		Tisserand K	.725	.338	.600	50.3	19.7	6.19	10.76	2	C	0
17335		Tisserand B	.730	.353	.585	51.2	20.6	4.64	8.07	1	C	0
17353	116	Peirce B	.757	.331	.563	53.3	19.3	6.03	10.48	1	pM	0
17361	115	Peirce	.761	.313	.568	53.2	18.2	10.63	18.48	2	pM	0
17378	126	Cleomedes F	.774	.384	.503	56.9	22.5	6.70	11.65	1	pM	0
17378A		Cleomedes FA	.780	.381	.496	57.5	22.3	3.38	5.87	1	pM	0
17407	176	Tralles	.700	.476	.532	52.7	28.4	24.83	43.16	2	C	pp
17408			.702	.484	.522	53.3	28.9	4.11	7.14	1	C	0
17411		Cleomedes M	.715	.410	.566	51.6	24.2	3.53	6.14	1	C	0
17417		Cleomedes E	.714	.479	.511	54.4	28.6	12.11	21.05	2f	pMC	0
17418	121	Cleomedes A	.717	.483	.503	54.9	28.8	6.83	11.87	1	pMC	0
17421		Cleomedes N	.720	.419	.553	52.4	24.7	3.42	5.94	1	pMC	0
17433	123	Cleomedes C	.737	.434	.518	54.8	25.7	8.21	14.27	2	pMC	0
17435	122	Cleomedes B	.736	.456	.500	55.7	27.1	6.17	10.72	1	pMC	0
17436	119	Cleomedes	.730	.465	.501	55.5	27.7	72.53	126.07	3	C	P
17440		Cleomedes L	.744	.404	.532	54.4	23.8	3.97	6.90	1	C	0
17445	127	Cleomedes J	.747	.452	.488	56.8	26.8	5.51	9.58	2f	pMC	0
17449		Cleomedes S	.746	.492	.449	58.9	29.4	4.37	7.60	1	C	0
17451		Cleomedes P	.756	.419	.503	56.3	24.7	5.15	8.95	1	C	0
17459	169	Burckhardt B	.751	.499	.432	60.0	29.9	6.44	11.19	1	C	0
17459A		Cleomedes R	.755	.493	.432	60.2	29.5	8.69	15.10	2	C	0
17460	128A	Cleomedes G	.768	.407	.494	57.2	24.0	11.25	19.55	2f	C	0
17461			.763	.414	.496	56.9	24.4	2.37	4.12	1	C	0
17462		Cleomedes Q	.760	.421	.495	56.9	24.8	2.54	4.41	2	C	0
17463		Cleomedes T	.761	.435	.481	57.6	25.7	6.49	11.28	2f	aMC	0
17468			.764	.484	.427	60.8	28.9	2.23	3.88	2	C	0
17469	120	Cleomedes D	.769	.490	.411	61.9	29.3	14.31	24.87	3f	aMC	0
17470			.775	.404	.486	57.9	23.8	3.60	6.26	1	C	0
17475	125	Delmotte	.772	.456	.443	60.1	27.1	18.89	32.83	2	C	0
17478			.774	.482	.411	62.0	28.8	7.40	12.86	2	aMC	0
17478A			.778	.485	.399	62.8	29.0	3.91	6.80	2	C	0
17478B			.772	.488	.407	62.1	29.2	6.36	11.05	2	C	0
17486			.783	.460	.419	61.8	27.3	4.13	7.18	1	C	0
17489			.782	.498	.375	64.3	29.8	9.59	16.67	2f	aMC	0
17498			.799	.481	.361	65.6	28.7	7.37	12.81	3	C	0
17505	324	Geminus C	.709	.558	.431	58.6	33.9	9.20	15.99	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
17509	162	Bernouilli A	+ .703	+ .594	+ .391	+ 60.9	+ 36.4	12.35	21.47	1	C	0
17510		Burckhardt E	.711	.509	.485	55.6	30.5	22.47	39.06	3	C	0
17511	167	Burckhardt	.714	.517	.472	56.5	31.1	32.75	56.92	2	C	P
17512		Burckhardt F	.718	.521	.462	57.2	31.3	24.64	42.83	3	C	0
17513		Burckhardt G	.715	.531	.455	57.5	32.0	3.90	6.78	1	C	0
17517	161	Bernouilli	.714	.574	.401	60.6	35.0	27.20	47.28	2	C	p
17519		Bernouilli K	.712	.598	.368	62.6	36.7	11.40	19.81	3	C	0
17519A			.716	.597	.362	63.1	36.6	9.17	15.94	4	C	0
17521			.725	.513	.460	57.6	30.8	2.97	5.16	1	C	0
17527		Bernouilli E	.727	.578	.371	62.9	35.3	14.99	26.05	4f	C	0
17530	168	Burckhardt A	.735	.506	.451	58.4	30.3	16.18	28.12	3	C	0
17532		Burckhardt C	.730	.524	.439	58.9	31.6	3.34	5.81	1	C	0
17541			.747	.518	.417	60.8	31.1	9.45	16.43	3	C	0
17542			.742	.526	.416	60.7	31.7	7.67	13.33	4	C	0
17548	165	Bernouilli D	.744	.585	.323	66.5	35.8	6.94	12.06	1	C	0
17557	164	Bernouilli C	.752	.579	.315	67.2	35.3	10.64	18.49	2	C	0
17560			.765	.506	.398	62.4	30.3	7.92	13.77	2	C	0
17564			.763	.546	.346	65.6	33.0	13.54	23.53	5f	C	0
17565		Berosus F	.760	.559	.332	66.4	33.9	12.38	21.52	3	C	0
17565A			.767	.556	.320	67.3	33.7	4.84	8.41	2	C	0
17565B			.769	.554	.319	67.4	33.6	12.23	21.26	3	C	0
17569			.763	.591	.262	71.0	36.2	2.50	4.35	2	C	0
17570			.777	.505	.376	64.1	30.3	4.80	8.34	3	C	0
17571			.770	.511	.382	63.6	30.7	3.61	6.27	1	C	0
17574	145A	Berosus A	.777	.547	.312	68.1	33.1	6.93	12.05	1	C	0
17574A			.775	.544	.322	67.4	32.9	16.67	28.97	3	C	0
17576			.770	.569	.289	69.4	34.6	7.35	12.78	2	C	0
17579			.774	.590	.230	73.4	36.1	4.34	7.54	1	C	0
17584			.782	.542	.308	68.5	32.8	5.49	9.54	2	C	0
17585	145	Berosus	.783	.552	.287	69.8	33.5	42.70	74.22	2f	C	0
17592			.799	.526	.291	69.9	31.7	6.32	10.99	4	C	0
17597	149C	Gauss E	.797	.578	.175	77.5	35.3	4.75	8.26	1	C	0
17597A			.790	.576	.210	75.1	35.1	6.96	12.10	1	C	0
17598	148	Gauss	.795	.587	.153	79.1	35.9	101.76	176.87	3	C	0
17599	149D	Gauss A	.797	.595	.104	82.5	36.5	10.17	17.68	1	C	pp
17602	338	Messala F	.702	.628	.336	64.4	38.9	18.51	32.17	2	C	0
17603			.704	.633	.322	65.4	39.2	3.57	6.21	1	C	0
17603A			.707	.630	.321	65.5	39.0	4.91	8.53	2	C	0
17604	336	Messala D	.704	.650	.286	67.8	40.5	16.14	28.05	2	C	0
17606	352	Zeno E	.705	.665	.246	70.7	41.6	10.46	18.18	2	C	0
17607			.703	.671	.236	71.4	42.1	23.28	40.46	3	C	0
17609		Zeno X	.705	.690	.164	76.9	43.6	9.82	17.07	2	C	0
17616			.719	.668	.192	75.0	41.9	14.71	25.57	3	C	0
17618			.713	.683	.159	77.4	43.0	7.73	13.44	2	C	0
17618A			.719	.680	.144	78.7	42.8	5.46	9.49	2	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
17619			+ .710	+ .690	+ .141	+ 78.7	+ 43.6	5.98	10.39	2	C	0
17620	163	Bernouilli B	.728	.601	.330	65.6	36.9	12.66	22.00	3	C	0
17621			.720	.617	.318	66.1	38.0	5.53	9.61	3	C	0
17621A			.722	.619	.309	66.8	38.2	3.31	5.75	2	C	0
17621B			.723	.615	.315	66.4	37.9	3.19	5.54	3	C	0
17623	339	Messala G	.723	.630	.283	68.5	39.0	16.90	29.37	3f	C	0
17624			.729	.647	.223	72.9	40.3	6.03	10.48	2	C	0
17624A			.725	.647	.236	71.9	40.3	12.82	22.28	3	C	0
17625			.724	.651	.228	72.5	40.6	7.83	13.61	1	C	0
17626			.722	.662	.201	74.4	41.4	9.49	16.50	3	C	0
17627A	(353)	Zeno F	.726	.676	.126	80.1	42.5	6.89	11.97	2	C	0
17627B			.720	.677	.153	78.0	42.6	6.35	11.04	1	C	0
17628			.720	.685	.111	81.2	43.2	7.91	13.75	2	C	0
17628A			.721	.689	.074	84.1	43.5	24.27	42.18	2	C	0
17632			.732	.621	.280	69.0	38.3	4.94	8.59	2	C	0
17633	149A	Gauss C	.732	.640	.234	72.2	39.7	16.83	29.25	1	C	0
17633A			.731	.639	.239	71.8	39.7	4.62	8.03	1	C	0
17635			.739	.657	.149	78.5	41.0	23.02	40.01	3f	C	0
17636			.730	.660	.177	76.3	41.2	13.38	23.26	3	C	0
17637	(353)		.730	.672	.125	80.3	42.2	7.49	13.02	1	C	0
17643	149B	Gauss D	.743	.635	.211	74.1	39.4	13.89	24.14	1	C	0
17643A			.747	.634	.200	75.0	39.3	18.51	32.17	4	C	0
17643B			.748	.637	.186	76.0	39.5	15.62	27.15	4	C	0
17654			.759	.640	.120	81.0	39.7	3.97	6.90	1	C	0
17654A			.753	.640	.153	78.5	39.7	18.04	31.36	4f	C	0
17655			.758	.650	.054	85.9	40.5	7.12	12.38	2	C	0
17690			.795	.606	.027	88.0	37.3	27.40	47.63	1	C	0
17700			.702	.706	.094	82.4	44.9	16.27	28.28	4	C	0
18004	227	Taruntius N	.804	.042	.593	53.5	2.4	3.21	5.58	1	pM	0
18007			.808	.070	.585	54.0	4.0	2.09	3.63	2	C	0
18013	226A	Taruntius O	.810	.039	.585	54.1	2.2	2.91	5.06	1	pM	0
18015			.819	.058	.571	55.1	3.3	2.51	4.36	2	pMC	0
18019	78	Apollonius K	.813	.097	.574	54.7	5.5	6.01	10.45	1	C	0
18029		Apollonius T	.828	.092	.553	56.2	5.2	5.91	10.27	1	C	0
18029A			.820	.095	.564	55.4	5.4	4.04	7.02	3	C	0
18033		Webb U	.830	.032	.557	56.1	1.8	3.65	6.34	1	pMC	0
18035	69	Apollonius C	.838	.058	.543	57.0	3.3	4.99	8.67	1	C	0
18038	67	Apollonius A	.834	.084	.545	56.8	4.8	14.00	24.33	3	C	0
18044		Webb P	.846	.041	.532	57.8	2.3	18.87	32.80	4f	aMC	0
18045		Webb W	.848	.052	.527	58.1	2.9	3.67	6.38	2	C	0
18045A		Webb X	.849	.056	.525	58.2	3.2	4.19	7.28	3	C	0
18046			.847	.069	.527	58.1	3.9	6.31	10.97	4	C	0
18046A			.849	.066	.524	58.3	3.7	2.93	5.09	3	C	0
18047		Apollonius V	.848	.076	.525	58.2	4.3	8.98	15.61	1	C	0
18047A			.843	.075	.533	57.7	4.3	7.11	12.35	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
18048	79	Apollonius J	+ .841	+ .081	+ .535	+ 57.5	+ 4.6	6.95	12.08	3	C	0
18048A			.840	.087	.536	57.4	4.9	6.92	12.03	4	C	0
18048B			.848	.084	.523	58.3	4.8	3.62	6.29	2	C	0
18056			.853	.066	.518	58.7	3.7	4.12	7.16	3	C	0
18056A			.859	.067	.508	59.4	3.8	5.98	10.39	3	C	0
18057	70	Apollonius D	.858	.074	.508	59.3	4.2	10.03	17.43	2	C	0
18058			.850	.081	.521	58.5	4.6	2.33	4.05	2	C	0
18065	71	Apollonius H	.860	.059	.507	59.4	3.3	11.88	20.65	2	C	0
18065A		Apollonius HA	.862	.052	.504	59.6	2.9	4.76	8.27	1	C	0
18068		Apollonius U	.862	.085	.500	59.8	4.8	4.07	7.07	1	C	0
18069	76	Apollonius F	.862	.098	.497	60.0	5.6	9.19	15.97	2	C	0
18071		Webb E	.875	.017	.484	61.0	0.9	3.22	5.60	2	pMC	0
18072		Webb G	.876	.029	.481	61.2	1.6	4.94	8.59	1	pMC	0
18072A		Webb F	.875	.026	.483	61.0	1.4	4.09	7.11	2	pMC	0
18073		Webb R	.870	.032	.492	60.5	1.8	16.16	28.09	4f	aMC	0
18076			.870	.061	.489	60.6	3.4	4.05	7.04	2	C	0
18076A			.871	.063	.487	60.7	3.6	3.07	5.34	2	C	0
18077	66	Apollonius	.872	.078	.483	61.0	4.4	29.81	51.81	3f	C	0
18078	73	Apollonius M	.879	.083	.470	61.8	4.7	5.86	10.19	2	pMC	0
18080		Webb L	.888	.003	.460	62.6	0.1	3.27	5.68	3	aMC	0
18082	79A	Apollonius S	.887	.022	.461	62.5	1.2	9.30	16.16	2f	aMC	0
18087	72	Apollonius E	.880	.076	.469	61.9	4.3	8.26	14.36	2	pMC	0
18088		Apollonius Y	.885	.085	.458	62.6	4.8	5.93	10.31	2	C	0
18088A			.888	.085	.452	63.0	4.8	4.50	7.82	3	C	0
18090	4658C	Webb C	.896	.007	.444	63.6	0.4	19.56	34.00	5f	aMC	0
18092			.890	.026	.455	62.9	1.4	2.96	5.14	2	pMC	0
18094A			.890	.048	.453	63.0	2.7	3.06	5.32	2	C	0
18096	77	Apollonius G	.891	.060	.450	63.2	3.4	9.74	16.93	2	C	0
18096A			.890	.067	.451	63.1	3.8	2.12	3.68	3	C	0
18097			.899	.072	.432	64.3	4.1	2.60	4.52	2	C	0
18098	68	Apollonius N	.896	.083	.436	64.0	4.7	5.43	9.44	2	C	0
18102			.800	.120	.588	53.6	6.8	2.99	5.20	1	C	0
18106		Picard K	.803	.169	.572	54.5	9.7	4.56	7.93	1	C	0
18111	81A	Apollonius L	.810	.113	.575	54.6	6.4	5.02	8.73	1	C	0
18111A			.811	.110	.575	54.6	6.3	3.89	6.76	1	C	0
18120			.829	.102	.550	56.4	5.8	2.68	4.66	2	C	0
18121		Apollonius LA	.821	.114	.559	55.7	6.5	3.87	6.73	1	C	0
18121A			.826	.115	.552	56.2	6.6	2.56	4.45	2	C	0
18126	110A	Picard H	.826	.164	.539	56.8	9.4	13.24	23.01	3f	aMC	0
18137		Picard J	.831	.179	.527	57.6	10.3	31.21	54.25	4f	aMC	0
18140	75	Apollonius B	.840	.102	.533	57.6	5.8	22.34 16.12	38.83 28.02	4	C	0
18141		Apollonius X	.843	.119	.525	58.1	6.8	17.77	30.89	4	C	0
18143		Auzout P	.846	.139	.515	58.6	7.9	2.74	4.76	1	C	0
18144		Auzout Q	.844	.145	.516	58.5	8.3	3.38	5.87	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
18150	81B	Apollonius P	+ .858	+ .100	+ .504	+ 59.5	+ 5.7	9.93	17.26	1	C	0
18154			.859	.142	.492	60.2	8.1	3.45	6.00	3	C	0
18154A			.855	.142	.499	59.7	8.1	3.75	6.52	3	C	0
18155		Auzout T	.858	.157	.489	60.3	9.0	9.88	17.17	5	C	0
18155A		Auzout R	.857	.152	.492	60.1	8.7	3.66	6.36	2	C	0
18156		Auzout F	.854	.165	.493	59.9	9.4	11.13	19.35	3	C	0
18156A		Auzout E	.859	.166	.484	60.5	9.5	9.66	16.79	2	C	0
18157		Auzout GA	.856	.172	.488	60.3	9.9	5.06	8.80	2	pMC	0
18158		Auzout G	.851	.186	.491	60.0	10.7	28.65	49.80	4f	aMC	0
18163		Firmicus H	.861	.130	.492	60.2	7.4	3.95	6.87	1	C	0
18164		Auzout L	.868	.145	.475	61.3	8.3	4.91	8.53	3	C	0
18165		Auzout S	.860	.153	.487	60.4	8.8	3.23	5.61	2	C	0
18166		Auzout U	.863	.163	.478	61.0	9.3	4.55	7.91	1	C	0
18166A		Auzout V	.866	.162	.473	61.3	9.3	4.12	7.16	2	C	0
18171		Firmicus F	.876	.114	.469	61.8	6.5	5.14	8.93	1	C	0
18171A			.872	.117	.475	61.4	6.7	4.30	7.47	2	C	0
18172		Firmicus G	.876	.121	.467	61.9	6.9	5.11	8.88	1	C	0
18176		Auzout D	.874	.162	.458	62.3	9.3	5.96	10.36	4	C	0
18182	56	Firmicus	.887	.127	.444	63.4	7.2	32.42	56.35	3f	C	0
18184		Firmicus E	.887	.140	.440	63.6	8.0	4.97	8.64	2	C	0
18186	48	Auzout A	.889	.163	.428	64.2	9.3	12.35	21.47	2	C	0
18187	47	Auzout	.885	.178	.430	64.0	10.2	18.76	32.61	2	C	0
18190	56A	Firmicus D	.897	.103	.430	64.3	5.9	6.07	10.55	2f	C	0
18194			.898	.142	.416	65.1	8.1	2.96	5.14	2	C	0
18195	50	Auzout C	.898	.153	.413	65.3	8.8	9.45	16.43	2	C	0
18196	49	Auzout B	.899	.164	.406	65.6	9.4	11.19	19.45	2	C	0
18196A		Auzout AB	.892	.164	.421	64.7	9.4	5.87	10.20	2	C	0
18252A	(40)	Picard X	.856	.228	.464	61.5	13.1	3.55	6.17	1	pM	0
18281		Condorcet H	.885	.215	.413	64.9	12.4	13.37	23.24	4f	aMC	0
18282		Condorcet J	.883	.226	.411	65.0	13.0	8.92	15.50	3f	aMC	0
18290		Condorcet T	.892	.204	.403	65.6	11.7	8.68	15.09	1	C	0
18290A			.897	.200	.394	66.2	11.5	6.62	11.51	3	C	0
18291		Condorcet TA	.891	.211	.402	65.7	12.1	8.03	13.96	1	C	0
18294		Condorcet W	.893	.240	.381	66.9	13.8	10.97 19.17	19.07 33.32	4	aMC	0
18309			.807	.393	.441	61.3	23.1	3.32	5.77	2	pM	0
18318	36	Eimmart C	.810	.381	.446	61.1	22.3	13.75	23.90	3f	aM	0
18319		Eimmart F	.810	.396	.433	61.8	23.3	4.70	8.17	1	pM	0
18329			.824	.394	.407	63.7	23.2	7.42	12.90	3f	aMC	0
18337		Eimmart H	.835	.377	.401	64.3	22.1	9.17	15.94	1	C	0
18339			.836	.396	.380	65.5	23.3	2.80	4.87	2	C	0
18356	(43B)	Eimmart B	.854	.365	.371	66.5	21.4	6.38	11.09	1	C	0
18359		Eimmart D	.859	.392	.329	69.0	23.0	6.15	10.69	3	pMC	0
18364		Eimmart K	.868	.345	.357	67.6	20.1	7.57	13.16	2	C	0
18369	(30A)	Plutarch C	.869	.394	.299	70.9	23.2	6.49	11.28	1	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
18375			+ .879	+ .355	+ .318	+ 70.0	+ 20.7	3.32	5.77	1	C	0
18377			.870	.372	.324	69.5	21.8	6.00	10.43	2	C	0
18399		Plutarch G	.890	.391	.235	75.2	23.0	6.24	10.85	2	C	0
18404			.803	.448	.393	63.9	26.6	5.57	9.68	1	pM	0
18408			.807	.488	.333	67.6	29.2	2.77	4.81	1	C	0
18413		Eimmart G	.816	.432	.384	64.7	25.5	8.23	14.30	1	pMC	0
18413A	(43C)	Eimmart T	.819	.437	.372	65.5	25.9	6.32 11.73	10.99 20.39	3	pMC	0
18416			.813	.460	.357	66.2	27.3	5.92	10.29	1	C	0
18419	142	Hahn A	.815	.495	.301	69.7	29.6	9.98	17.35	1	C	0
18420	34	Eimmart	.826	.406	.391	64.6	23.9	26.59	46.22	2	pMC	0
18424			.829	.446	.337	67.8	26.4	10.79	18.75	3	C	0
18426	124	Hahn D	.826	.461	.324	68.5	27.4	8.79	15.28	2	C	0
18428			.822	.482	.303	69.7	28.8	3.18	5.53	1	C	0
18428A			.826	.482	.292	70.5	28.8	2.85	4.95	1	C	0
18429			.823	.494	.280	71.1	29.6	3.18	5.53	1	C	0
18430	38A	Eimmart A	.830	.409	.379	65.4	24.1	4.07	7.07	1	pMC	0
18433			.831	.433	.349	67.2	25.6	4.45	7.73	2	pMC	0
18436		Hahn E	.833	.464	.301	70.1	27.6	8.59	14.93	1	C	0
18444			.840	.447	.308	69.8	26.5	6.52	11.33	2	C	0
18453		Plutarch L	.853	.437	.285	71.5	25.9	4.48	7.79	1	C	0
18459			.858	.490	.154	79.8	29.3	9.90	17.21	1	C	0
18462		Plutarch K	.865	.424	.268	72.7	25.0	6.40	11.12	3	C	0
18464	(29)	Seneca A	.868	.444	.222	75.6	26.3	9.71	16.88	1	C	0
18464A		Seneca C	.866	.444	.230	75.1	26.3	12.73	22.13	2	C	0
18465	138	Seneca B	.868	.457	.194	77.3	27.1	16.17	28.11	3	C	0
18468			.868	.482	.119	82.1	28.8	7.58	13.18	2	pMC	0
18469			.864	.493	.102	83.2	29.5	10.02	17.42	2	pMC	0
18469A			.860	.496	.120	82.0	29.7	8.61	14.97	1	pMC	0
18471		Plutarch H	.872	.413	.263	73.2	24.3	6.21	10.79	1	C	0
18472		Plutarch J	.871	.425	.246	74.2	25.1	6.25	10.86	2	C	0
18475	137	Seneca	.878	.454	.152	80.2	27.0	36.41	63.29	3	C	P
18475A			.876	.450	.174	78.7	26.7	6.18	10.74	2	C	0
18478			.870	.480	.113	82.6	28.6	5.19	9.02	3	C	0
18478A			.871	.481	.100	83.4	28.7	6.18	10.74	3	C	0
18480		Plutarch F	.880	.400	.256	73.7	23.5	6.72	11.68	2	C	0
18481	(33)	Plutarch D	.883	.414	.221	75.9	24.4	8.35	14.51	2	C	0
18484		Seneca D	.884	.449	.130	81.6	26.6	10.52	18.29	1	C	0
18485			.887	.457	.066	85.7	27.1	11.25	19.55	2	C	0
18490	26	Plutarch	.897	.408	.170	79.2	24.0	39.20	68.14	2	C	P
18490A		Plutarch M	.894	.404	.194	77.7	23.8	6.36	11.05	1	C	0
18490B		Plutarch N	.892	.403	.205	77.0	23.7	6.84	11.89	2	C	0
18493			.894	.434	.111	82.8	25.7	7.50	13.04	1	C	0
18494			.892	.448	.060	86.1	26.6	7.84	13.63	2	C	0
18501			.805	.513	.298	69.6	30.8	8.73 6.59	15.17 11.45	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
18503		Berosus K	+ .800	+ .533	+ .276	+ 70.9	+ 32.2	3.53	6.14	1	C	0
18503A			.809	.533	.248	72.9	32.2	13.26	23.05	1	C	0
18507		Gauss F	.804	.570	.169	78.1	34.7	11.31	19.66	3	C	0
18508		Gauss B	.800	.587	.124	81.1	35.9	21.53	37.42	3	C	0
18514		Gauss H	.816	.547	.187	77.0	33.1	6.09	10.59	2	C	0
18516	149	Gauss W	.811	.567	.144	79.9	34.5	10.28	17.87	2	C	0
18516A		Gauss G	.811	.562	.163	78.6	34.1	10.05	17.47	3	C	0
18517			.814	.579	.047	86.7	35.3	13.53	23.52	2	C	0
18521	141	Hahn	.820	.519	.241	73.6	31.2	48.43	84.18	2	C	P
18526			.826	.560	.064	85.5	34.0	5.32	9.25	1	C	0
18532	142A	Hahn B	.831	.522	.192	76.9	31.4	8.72	15.16	1	C	0
18534			.832	.549	.080	84.5	33.2	7.83	13.61	2	C	0
18534A			.837	.545	.049	86.6	33.0	7.91	13.75	2	C	0
18542			.844	.521	.127	81.4	31.3	14.86	25.83	2	C	0
18543			.842	.537	.052	86.4	32.4	8.06	14.01	1	C	0
18543A			.842	.532	.090	83.9	32.1	7.05	12.25	2	C	0
18551			.854	.516	.067	85.5	31.0	11.03	19.17	1	C	0
18551A			.853	.515	.085	84.3	30.9	10.37	18.02	3	C	0
18552	142B	Hahn C	.850	.523	.063	85.7	31.5	10.18	17.69	1	C	0
18552A			.850	.526	.029	88.0	31.7	16.05	27.90	2	C	0
19013	(65C)	Dubiago Q	.920	.039	.390	67.0	2.2	7.69	13.37	1f	aMC	0
19014		Dubiago R	.915	.044	.401	66.3	2.5	4.66	8.10	2f	aMC	0
19017	65	Firmicus M	.914	.074	.399	66.4	4.2	23.82	41.40	5f	aMC	0
19021	(65B)	Dubiago P	.920	.014	.392	66.9	0.8	13.44	23.36	3f	aMC	0
19021A		Maclaurin W	.929	.011	.370	68.2	0.6	14.53	25.26	4f	aMC	0
19022		Dubiago N	.920	.025	.391	66.9	1.4	3.81	6.62	1	pMC	0
19022A		Dubiago K	.929	.025	.369	68.3	1.4	5.93	10.31	2	pMC	0
19023		Dubiago L	.928	.033	.371	68.2	1.8	2.55	4.43	2	pMC	0
19024		Dubiago M	.928	.040	.370	68.2	2.2	4.87	8.46	3	pMC	0
19027		Dubiago Y	.927	.073	.368	68.3	4.1	4.01	6.97	1	C	0
19030		Maclaurin X	.932	.000	.362	68.7	0.0	9.22	16.03	4	aMC	0
19032		Dubiago E	.933	.024	.359	68.9	1.3	7.41	12.88	1	C	0
19033		Dubiago F	.937	.032	.348	69.6	1.8	5.08	8.83	2	C	0
19033A		Dubiago G	.933	.031	.359	68.9	1.7	4.02	6.99	2	C	0
19034		Dubiago H	.934	.040	.355	69.1	2.2	3.39	5.89	1	C	0
19034A			.933	.046	.357	69.0	2.6	3.39	5.89	2	C	0
19034B			.935	.046	.352	69.3	2.6	3.60	6.26	2	C	0
19035		Dubiago J	.936	.050	.348	69.5	2.8	6.57	11.42	1	C	0
19037	(7)	Dubiago	.937	.078	.341	70.0	4.4	26.27	45.66	2f	aMC	0
19042		Dubiago D	.946	.026	.323	71.1	1.4	10.18	17.69	1	C	0
19042A			.949	.024	.314	71.6	1.3	3.43	5.96	1	C	0
19044		Dubiago C	.949	.049	.311	71.8	2.8	11.56	20.09	1	C	0
19045		Dubiago B	.940	.052	.337	70.2	2.9	19.51	33.91	4f	aMC	0
19046		Dubiago Z	.943	.067	.326	70.9	3.8	4.67	8.12	1	C	0
19046A			.948	.067	.311	71.8	3.8	15.03	26.12	3f	aMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
19048		Dubiago T	+ .949	+ .085	+ .304	+ 72.2	+ 4.8	5.23	9.09	1	C	0
19049		Dubiago U	.949	.096	.300	72.4	5.5	5.75	9.99	1	C	0
19053	4A	Schubert N	.954	.032	.298	72.6	1.8	32.75	56.92	4f	C	0
19054		Dubiago S	.959	.047	.279	73.7	2.6	9.17	15.94	1	C	0
19055			.952	.059	.300	72.4	3.3	2.97	5.16	1	C	0
19057			.958	.074	.277	73.8	4.2	4.87	8.46	2	C	0
19057A			.955	.078	.286	73.3	4.4	7.21	12.53	2	C	0
19058			.958	.089	.273	74.1	5.1	4.22	7.33	2	C	0
19060			.967	.003	.255	75.2	0.1	6.59	11.45	3	C	0
19060A			.960	.008	.280	73.7	0.4	8.05	13.99	4	C	0
19065			.969	.050	.242	75.9	2.8	4.74	8.24	2	C	0
19067		Schubert G	.964	.073	.256	75.1	4.1	29.41	51.12	3	C	0
19070	4B	Schubert Y	.970	.003	.243	75.9	0.1	22.12	38.45	2f	C	0
19070A		Schubert X	.975	.005	.222	77.1	0.2	26.83	46.63	3f	C	0
19072		Schubert H	.971	.028	.237	76.2	1.6	13.46	23.40	3	C	0
19074		Schubert K	.970	.040	.240	76.1	2.2	15.60	27.12	3	C	0
19075		Schubert F	.977	.057	.205	78.1	3.2	16.91	29.39	3f	C	0
19075A			.971	.058	.232	76.5	3.3	8.48	14.74	2	C	0
19077	4	Schubert E	.978	.070	.197	78.6	4.0	15.72	27.32	2	C	0
19079	(8)	Banachiewicz B	.976	.094	.196	78.6	5.3	13.49	23.45	1	C	0
19080	4C	Schubert Z	.980	.006	.199	78.5	0.3	21.82	37.93	2	C	0
19082	3	Schubert B	.987	.022	.159	80.8	1.2	20.28	35.25	1	C	?
19084	1	Schubert	.987	.047	.154	81.1	2.6	31.04	53.95	1	C	pp
19089		Banachiewicz	.981	.091	.171	80.0	5.2	52.93	92.00	3	C	0
19089A		Banachiewicz F	.981	.093	.170	80.1	5.3	7.11	12.36	1	C	0
19091			.994	.016	.108	83.7	0.9	21.77	37.84	4f	aM	0
19093			.993	.034	.113	83.5	1.9	11.87	20.63	3	pM	P
19099		Neper K	.994	.090	.062	86.4	5.1	22.48	39.07	3	C	?
19101	57	Firmicus A	.901	.112	.419	65.0	6.4	4.36	7.58	2	C	0
19102	58	Firmicus B	.905	.127	.406	65.8	7.2	8.16	14.18	2	pMC	0
19103	59	Firmicus C	.909	.134	.395	66.5	7.7	7.59	13.19	1	pMC	0
19109	46A	Condorcet A	.903	.199	.381	67.1	11.4	7.80	13.56	1	C	0
19113			.917	.135	.375	67.7	7.7	2.12	3.68	2	pM	0
19114			.917	.141	.373	67.8	8.1	7.85	13.64	3f	aM	0
19117		Condorcet D	.917	.170	.361	68.5	9.7	12.70	22.07	2	C	0
19118		Condorcet G	.912	.184	.367	68.1	10.6	4.22	7.33	1	C	0
19118A			.913	.188	.362	68.3	10.8	4.77	8.29	3	C	0
19119		Condorcet E	.910	.197	.365	68.1	11.3	3.63	6.31	1	C	0
19125			.923	.158	.351	69.1	9.0	2.55	4.43	2	pM	0
19126			.922	.162	.352	69.1	9.3	3.81	6.62	1	pM	0
19126A			.923	.166	.347	69.3	9.5	3.60	6.26	2	C	0
19127		Condorcet X	.926	.175	.335	70.1	10.0	4.35	7.56	1	C	0
19130		Dubiago V	.935	.102	.340	70.0	5.8	6.72	11.68	3f	aMC	0
19131		Dubiago W	.933	.113	.342	69.8	6.4	5.04	8.76	2	pMC	0
19134		Condorcet PA	.933	.142	.331	70.4	8.1	6.35	11.04	1	pMC	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	c.e.
19134A		Condorcet PB	+ .936	+ .145	+ .321	+ 71.0	+ 8.3	7.59	13.19	1	pMC	0
19135	46	Condorcet P	.931	.152	.332	70.3	8.7	26.28	45.68	2f	aMC	0
19139		Condorcet Q	.939	.197	.282	73.2	11.3	17.80	30.94	4f	C	0
19144	45	Condorcet F	.948	.145	.283	73.3	8.3	21.22	36.88	2f	aMC	0
19145		Condorcet M	.946	.157	.284	73.3	9.0	5.27	9.16	1	C	0
19145A		Condorcet N	.944	.156	.291	72.8	8.9	2.55	4.43	2	C	0
19147		Condorcet L	.945	.176	.276	73.7	10.1	6.60	11.47	1	C	0
19151		Dubiago X	.951	.112	.288	73.1	6.4	4.34	7.54	1	pMC	0
19153	(10)	Banachiewicz E	.957	.131	.259	74.8	7.5	4.02	6.99	1	C	0
19155		Condorcet K	.958	.157	.240	75.9	9.0	6.50	11.30	1	C	0
19155A			.950	.152	.273	73.9	8.7	3.12	5.42	2	C	0
19156			.955	.160	.250	75.3	9.2	3.61	6.27	1	C	0
19157		Condorcet U	.953	.174	.248	75.4	10.0	5.01	8.71	3	C	0
19158		Condorcet S	.952	.184	.245	75.5	10.6	5.43	9.44	1	C	0
19158A			.955	.189	.229	76.5	10.8	3.40	5.91	2	C	0
19159			.955	.193	.225	76.7	11.1	4.25	7.39	1	C	0
19162	(9)	Banachiewicz C	.961	.122	.248	75.5	7.0	11.14	19.36	1	C	0
19166			.966	.169	.196	78.5	9.7	16.20	28.16	4	C	0
19167			.967	.179	.181	79.3	10.3	22.07	38.36	4	C	0
19168A			.962	.182	.204	78.0	10.4	22.37	38.88	4	C	0
19168		Neper H	.963	.180	.201	78.2	10.3	5.35	9.30	1	C	0
19175		Neper D	.976	.158	.150	81.2	9.0	22.92	39.84	2	C	0
19176		Neper G	.979	.169	.114	83.3	9.7	9.64	16.76	1	pMC	0
19177			.972	.179	.152	81.0	10.3	15.70	27.29	4	C	0
19184		Neper Q	.983	.140	.119	83.1	8.0	7.01	12.18	1	pMC	0
19185	6	Neper	.983	.155	.098	84.2	8.9	81.63	141.89	2	pMC	P
19202		Condorcet Y	.909	.222	.353	68.7	12.8	7.27	12.64	2	pMC	0
19211	44	Condorcet	.917	.211	.339	69.7	12.1	42.76	74.32	2f	C	0
19217	14	Alhazen	.914	.274	.299	71.8	15.9	18.86	32.78	1	C	0
19224	11	Hansen	.926	.242	.290	72.6	14.0	22.77	39.58	1	C	P
19227	16	Alhazen A	.926	.279	.254	74.6	16.2	8.23	14.30	1	pMC	0
19233	12	Hansen A	.939	.232	.254	74.8	13.4	7.33	12.74	1	C	0
19234			.933	.241	.267	74.0	13.9	5.02	8.73	2	C	0
19238			.932	.284	.225	76.4	16.4	8.01	13.92	2f	aMC	0
19240		Condorcet R	.945	.203	.256	74.8	11.7	8.85	15.38	3f	aMC	0
19241			.946	.215	.243	75.6	12.4	3.77	6.55	2	C	0
19248			.944	.287	.163	80.2	16.6	8.75	15.21	1	C	0
19254	13	Hansen B	.954	.247	.170	79.9	14.3	42.06 27.17	73.11 47.23	4f	aMC	0
19259			.953	.291	.084	84.9	16.9	26.58	46.20	4f	aMC	0
19307			.906	.371	.204	77.3	21.7	15.23	26.47	3	C	0
19308			.908	.388	.158	80.1	22.8	8.41	14.62	1	C	0
19313			.910	.338	.240	75.2	19.7	11.77	20.46	1	C	0
19315			.913	.350	.210	77.0	20.4	12.40	21.55	2	C	0
19316			.910	.363	.200	77.5	21.2	13.50	23.47	3	C	0

Ref.	B & M	Designation	ξ	η	ζ	λ	β	D	K	C	B	C.E.
19316A			+ .919	+ .366	+ .147	+ 80.9	+ 21.4	7.66	13.31	2	C	0
19318			.917	.383	.111	83.0	22.5	9.04	15.71	1	C	0
19322	23	Alhazen E	.927	.329	.180	79.0	19.2	12.52	21.76	2	C	0
19323			.927	.334	.171	79.5	19.5	8.59	14.93	1	C	0
19324	25	Alhazen F	.929	.341	.144	81.2	19.9	32.56	56.59	3f	C	0
19325			.920	.350	.176	79.1	20.4	5.87	10.20	1	C	0
19326			.924	.365	.114	82.9	21.4	6.09	10.59	3	C	0
19327	26A	Plutarch A	.924	.378	.058	86.4	22.2	47.18	82.01	2	C	P?
19327B			.920	.371	.126	82.1	21.7	4.54	7.89	1	C	0
19330	17	Alhazen B	.939	.301	.166	79.9	17.5	17.72	30.80	2	C	0
19331			.937	.312	.157	80.4	18.1	9.97	17.33	3	C	0
19333	18	Alhazen C	.939	.335	.078	85.2	19.5	28.68	49.85	3	C	0
19334			.932	.349	.098	84.0	20.4	10.53	18.30	2	C	0
19335			.930	.359	.079	85.1	21.0	26.25	45.63	4	C	0
19401			.905	.419	.074	85.3	24.7	12.79	22.23	3	C	0
19410			.914	.400	.068	85.7	23.5	27.57	47.92	3	C	0

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" K	12654	" G	10802	Auwers	12286
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" F	19324	" A	13008	" C	18195
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"	D	15034
"	E	15170
"	F	15077
"	G	14044
"	H	15038
"	J	15035
"	K	14095
"	M	14163
"	N	15009
"	P	15060A
"	R	15015
"	W	14081
"	X	14062
"	Y	14073
Mason		13677
"	A	13668
"	B	13666
"	C	14608
Maury		15610
"	A	15548
"	AA	15558
"	B	15547
"	C	14690
"	D	14681
"	E	15621
"	J	15603

Designation		Reference	Designation		Reference	Designation		Reference
Maury	K	15603A	Messala	K	16645	Newcomb	G	16417
"	L	15614	Meton		10996	"	H	15498
"	M	15615	"	A	11945	"	J	16418
"	N	15604	"	B	11904	"	P	16449
"	P	14674	"	C	11904A	"	Q	15580
"	T	15624	"	D	11925	Oersted		15638A
"	U	14663	"	E	10966	"	A	15638
C. Mayer		11839	"	F	10975	"	P	15628
"	B	11836	"	G	11945A	"	U	15617
"	D	11848	"	W	11912	Pallas	N	10102
"	E	11837	Mitchell		12726	Peirce		17361
"	F	11858	"	A	12715	"	B	17353
"	H	11910	"	B	12714	"	C	17322
Menelaus		12268	"	E	12743	Petermann		12956
"	A	12229	Moigno		11991	"	A	12956A
"	C	12245	"	A	12910	"	B	12965
"	D	12272	"	B	11980	"	C	12964
"	E	12263	"	C	11991A	"	D	12907
"	R	12235	"	D	11990	"	E	12945
"	S	12247	Murchison	T	10007	"	R	12926A
Mercurius		16722	Nansen		11958	"	S	12926
"	A	16744	"	A	11919	"	T	12936
"	B	16733	"	B	10999	"	W	12927
"	C	15783A	"	C	10999A	"	X	12946A
"	CA	15792	"	D	10999B	"	Y	12946
"	D	16742	"	E	11909	Peters		11982
"	DA	16741A	"	F	10979	Picard		17285
"	E	16716	"	V	11958A	"	G	17196
"	F	16721	Neison		11952	"	GA	17196A
"	G	16730	"	A	11972	"	GB	17197B
"	H	15785	"	B	11962	"	H	18126
"	J	15783	"	C	11951	"	J	18137
"	K	16743	"	D	11942	"	K	18106
"	L	16721A	Neper		19185	"	L	17197A
"	M	16707	"	D	19175	"	M	17197
Messala		16673	"	G	19176	"	N	17198
"	A	16549	"	H	19168	"	P	17195
"	B	16680	"	K	19099	"	X	18252A
"	C	16685	"	Q	19184	Plana		13657
"	D	17604	Newcomb		16409	"	C	13637
"	E	16694	"	A	16409A	"	D	13626
"	F	17602	"	B	16427A	"	E	13604
"	G	17623	"	C	16428	"	F	13614
"	J	16665	"	F	15572	"	G	13603

Designation	Reference
Plinius	13286
" A	13292
" B	14224
Plutarch	18490
" A	19327
" C	18369
" D	18481
" F	18480
" G	18399
" H	18471
" J	18472
" K	18462
" L	18453
" M	18490A
" N	18490B
Posidonius	14522
" A	14512
" B	14534
" C	14521
" D	14544
" E	12590
" F	13584
" G	13577
" J	14525
" M	14516
" N	13419
" O	14515
" P	13585
" W	12592
Proclus	17207
" A	16253
" C	16272
" D	16229
" E	16228A
" F	16294
" G	16262
" GA	16262A
" J	16269
" K	16298
" L	16299
" M	16288
" P	17226
" PA	17236
" PB	17235

Designation	Reference
Proclus R	16287
" S	17217
" T	17206
" U	17216
" V	17225
" W	16380
" X	16370
" Y	16279
" Z	16360
Protagoras	10872
" B	10853
" E	10706
Rhaeticus	10080
" A	10093
" B	11012
" D	11001
" DA	11001A
" G	11011
" L	10060
" M	10061
" N	10072
Ritter	13023
" B	13025
" C	13024
" D	13026
Römer	15432
" A	15437
" B	15447
" C	15436
" D	15431
" E	15457
" F	15445
" G	15425
" H	15423
" J	15368
" K	15338
" KA	15338A
" L	15329
" M	15412
" N	15452
" P	15474
" PA	15465
" PB	15466
" PC	15455

Designation	Reference
Römer PD	15484
" R	15411
" S	15442
" T	15440A
" TA	15339
" U	15471
" V	15461
" X	15480
" Y	15433
" Z	15440
Ross	13260
" B	13139
" C	13210
" D	13281
" E	13189
" F	14108
" G	14118
" H	13167
Sabine	13042
" A	13032
" B	13072
" C	13081
" D	14002
" E	14022
Schmidt	13021
Schubert	19084
" B	19082
" E	19077
" F	19075
" G	19067
" H	19072
" K	19074
" N	19053
" X	19070A
" Y	19070
" Z	19080
Schumacher	16647
" B	16637
Schwabe	13900
" C	12972
" D	13900A
" E	13809
" F	13901
" G	12970

Designation	Reference	Designation	Reference	Designation	Reference
Schwabe	K 12982	Sinas	H 15147	Taruntius	P 17080
"	N 12983B	"	J 15147A	"	Q 17141
"	U 13931	"	K 15141	"	R 17130
"	W 12973	Sosigenes	12195	"	T 17036
"	X 13902	"	A 13113	"	TA 17026
Scoresby	10957	"	B 12194	"	U 17069
"	A 10978	"	C 13122	"	V 17067
"	AA 10968	Strabo	13888	"	W 17059
"	K 10917	"	B 13950A	"	X 17193
"	L 10958A	"	C 13932	"	XA 17192
"	M 10936	"	L 13940	"	Y 17182
"	N 10959	"	N 13950	"	YA 17182A
"	P 10957A	Sulpicius Gallus	11393	"	Z 17103
"	Q 10937	"	A 11347	Tempel	12006
"	W 10956	"	B 12310	Thales	13868
Secchi	16084	"	G 11303	"	A 13845
"	A 16065	"	H 10395	"	E 13874
"	B 16066	"	M 11344	"	F 13846
"	G 17006	Tacquet	13218	"	G 13838
"	U 16071	"	A 13234	"	H 13866
Seneca	18475	"	B 13227	"	W 13835
"	A 18464	"	BA 13227A	Theaetetus	10680
"	B 18465	"	C 13243	Theon Senior	B 12040
"	C 18464A	Taruntius	17029	Tisserand	16396
"	D 18484	"	A 17152	"	A 17314
Sheepshanks	11845	"	B 17025	"	B 17335
"	A 11866	"	C 17110	"	D 17307
"	B 11876	"	CA 17100	"	K 17323
"	C 11863	"	CB 17100A	Tralles	17407
Shuckburgh	15687	"	D 17115	"	A 16446
"	A 16608	"	E 16049	"	B 16485
"	C 15678	"	EA 16078	"	C 16476
"	E 16609	"	EB 16059	Triesnecker	10067
Silberschlag	12110	"	F 16046	"	D 11006
"	A 12122	"	G 17053	"	E 10049
"	D 11193	"	H 17060	"	F 10087
"	E 12019	"	J 16175	"	G 10096
"	G 12130	"	K 17081	"	H 10045A
"	P 12102	"	L 16099	"	J 10045
"	S 12103	"	M 16172	Trouvelot	10765
Sinas	15115	"	MA 16182	"	D 10715
"	A 15133	"	MB 16173	"	G 10703
"	E 15106	"	N 18004	"	H 10756
"	G 15156	"	O 18013	Ukert	10123

Designation		Reference
Ukert	A	10125
"	B	10124
"	E	10105
"	K	10161
"	M	10133A
"	N	10133
"	P	10153
"	R	10114
"	V	10155
"	W	10146
"	X	10136
"	Y	10107
Vitruvius		14390
"	A	15330
"	B	15228A
"	C	15236
"	E	14361
"	G	15254
"	H	15238
"	K	15228
"	L	14382
"	M	15207
"	T	15229
Webb	C	18090
"	E	18071
"	F	18072A
"	G	18072
"	L	18080
"	P	18044
"	R	18073
"	U	18033
"	W	18045
"	X	18045A
Whewell		12037
"	A	12048
"	B	12048A
Williams		14656
"	F	14648
"	M	14675
"	N	14647
"	R	14657
Yerkes		17255
"	E	17247
Zeno		16770

Designation		Reference
Zeno	A	16760
"	B	16689
"	D	16760A
"	E	17606
"	F	17627A
"	G	16689A
"	J	16699
"	K	16678
"	P	16668
"	U	16687
"	V	16688
"	W	16678A
"	X	17609

APPENDIX II. MAP LOCATIONS OF NAMED CRATERS

DESIGNATION	MAP	DESIGNATION	MAP
Agrippa	C4	Conon	C3
Alexander	C2	Cusanus	C1, B1
Alhazen	A3, A4	Daniell	B2
Apollonius	A4	d'Arrest	C4
Arago	B4	da Vinci	A4
Aratus	C3	Dawes	B3
Archytas	C1	Debes	A3, A2
Ariadaeus	C4, B4	de la Rue	B1
Aristillus	C1, C2	Delmotte	A3
Aristotles	C2, C1	Dembowski	C4
Arnold	C1	Democritus	C1, B1
Atlas	B1, B2	de Morgan	C4
Autolycus	C3, C2	Deseilligny	C3, B3
Auwers	C4, C3, B4, B3	Dionysius	C4, B4
Auzout	A4	Dubiago	A4
Baillaud	C1	Egede	C1, C2
Baily	C1, B1, C2, B2	Einmart	A3
Banachiewicz	A4	Endymion	B1
Barrow	C1	Euctemon	C1
Belkovich	B1	Eudoxus	C2
Bernouilli	A2	Firmicus	A4
Berosus	A2	Franklin	B2
Berzelius	B2, A2	Franz	A3, B3
Bessel	C3, B3	Galle	C1
Blagg	C4	Gärtner	C1, B1
G. Bond	C1	Gauss	A2
W. Bond	C1	Geminus	A2
Boscovich	C4	Gioja	C1
Bruce	C4	Glaisher	A3, A4
Burckhardt	A3, A2	Godin	C4
Bürg	C2, B2	Grove	B2
Calippus	C2	Hahn	A3, A2
Carrington	B2, A2	Hall	B2
Cassini	C2	Hansen	A3, A4
Cauchy	B4, A4	Hayn	B1
Cayley	C4	Hercules	B1, B2
Cepheus	B3	Hooke	B2, A2
Chacornac	B3, B2	Hyginus	C4
Challis	C1	Jansen	B4, B3
Chevallier	B2	Julius Caesar	C4, B4
Chladni	C4	Kane	C1
Cleomedes	A3, A2	Kirchhoff	B3, B2
Condorcet	A3, A4	Lacus Mortis	C1, B1, C2, B2

DESIGNATION	MAP
Lade B	C4
Lamèch	C2
Lamont	B4
le Monnier	B3
Lick	A4
Linné	C3
Littrow	B3
Luther	B2
Lyell	B4, A3, B3, A4
Maclear	B4
Macrobius	A3, B3
Main	C1
Manilius	C4, C3
Manners	B4
Maraldi	B3
Maskelyne	B4
Mason	B2
Maury	B2
C. Mayer	C1
Menelaus	C4, C3
Mercurius	B1, B2, A2
Messala	B2, A2
Meton	C1
Mitchell	C1, C2
Moigno	C1
Nansen	C1
Nelson	C1
Neper	A4
Newcomb	A3, B3, B2, A2
Oersted	B2
Peirce	A3
Petermann	C1
Peters	C1
Picard	A3, A4
Plana	B2
Plinius	B4, B3
Plutarch	A3
Posidonius	B3, B2

DESIGNATION	MAP
Proclus	A3, A4
Protagoras	C1
Rhaeticus	C4
Ritter	C4, B4
Römer	B3
Ross	B4
Sabine	B4
Schmidt	C4, B4
Schubert	A4
Schumacher	B2, A2
Schwabe	C1, B1
Scoresby	C1
Secchi	A4
Seneca	A3
Sheepshanks	C1
Shuckburgh	B2
Silberschlag	C4
Sinas	B4
Sosigenes	C4, B4
Strabo	B1
Sulpicius Gallus	C3
Tacquet	C3, B3
Taruntius	A4
Tempel	C4
Thales	B1
Theaetetus	C2
Theon Senior	C4
Tisserand	A3
Tralles	A3, A2
Triesnecker	C4
Trouvelot	C1, C2
Ukert	C4
Vitruvius	B3
Webb	A4
Whewell	C4
Williams	B2
Yerkes	A3, A4
Zeno	A2

APPENDIX IV. CORRIGENDA

Quadrant I of "Consolidated Catalog of Selenographic Positions"

The following corrections should be applied to the first quadrant of the "Consolidated Catalog of Selenographic Positions" (Comm. L.F.L., No. 11).

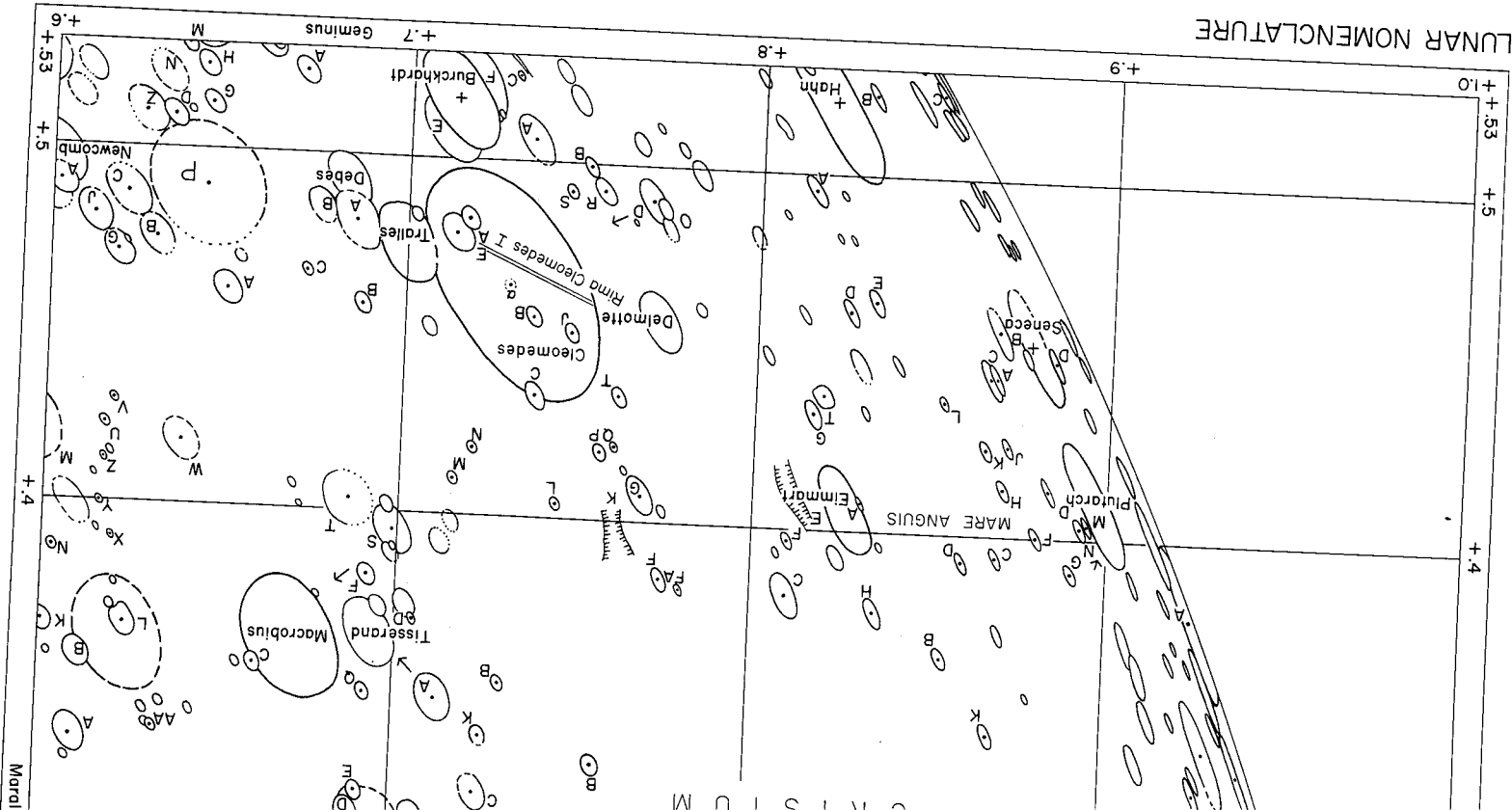
<u>Ref.</u>	<u>Corrections</u>
10907	Diameter should read 5.7.
10928	Diameter should read 29.5.
10958	Cancel entry.
11908	Cancel entry. Incorrectly bisected.
14893	Diameter should read 7.7.
15727	Cancel entry. Incorrectly bisected.
15851	Designation shifted to more suitable object.
16299	Diameter should read 5.4.
16344	Diameter should read 3.6.
16365	Diameter should read 5.6.
16689A	Diameter should read 6.2.
16760A	Diameter should read 9.0.
18419	Diameter should read 10.0.
18490	Diameter should read 39.2.
19254	Diameter should read 42.1 x 27.2.

APPENDIX III. NOTES

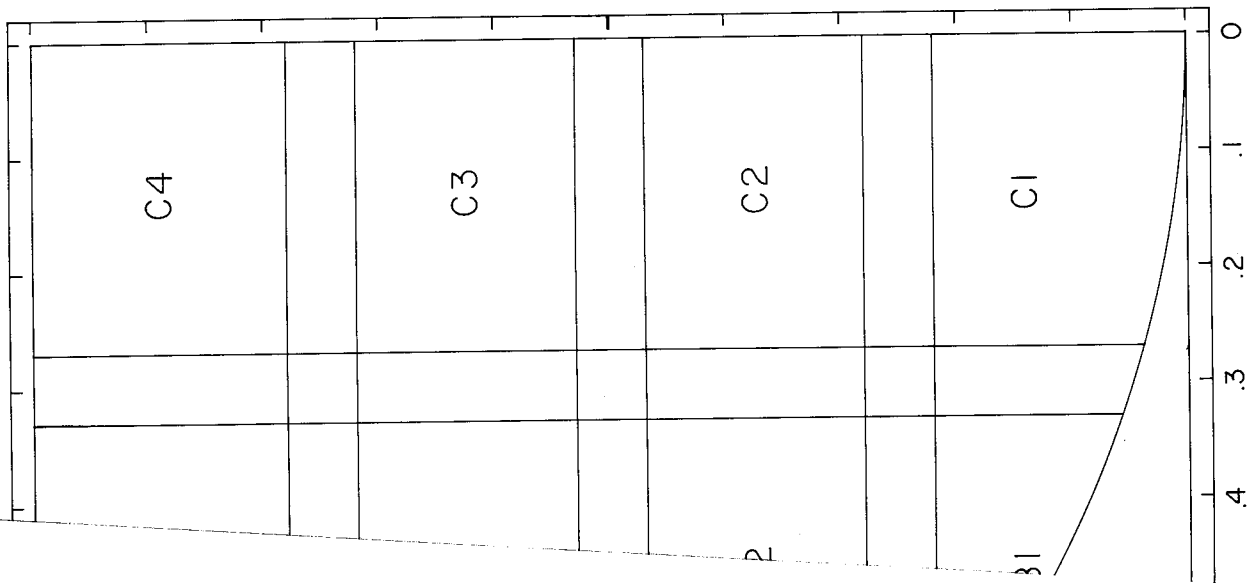
Ref.	Remarks	Ref.	Remarks
10802	This was B & M's Plato β .	15577	May be double.
10936	This is not B & M's Scoresby M.	15727	Not as measured by Franz, who included also area between crater and bright ridge to south.
11906	Position approximate.	15881	Designation shifted to more suitable object. This is not B & M's 402f.
12104A	Designation shifted to more definite feature.	16228	Designation restricted to northern component. Southern component is EA.
12697	Designation shifted to more definite feature.	16280	Designation restricted to northern component.
12746	May be compound.	16449	May be compound.
12815	Formerly Democritus C.	16480	May be compound.
12946	May be elliptical.	16489	Designation restricted to northern component.
12946A	May be elliptical.	16535	B & M's Geminus E now divided into E and EA.
12956A	May be beyond mean limb.	16707	Formerly Mercurius E.
13227	May be compound.	16718	Coordinates approximate.
13499	Ghost ring.	16721	May be double.
13518	Formerly Posidonius H.	16727	Coordinates approximate.
13842	Formerly Thales M.	17226	Formerly M. Crisium P.
13940	Formerly Thales L.	17247	Formerly M. Crisium E.
13950	Formerly Thales N.	17598	Coordinates of Franz rejected in favor of orthographic grid values.
13950A	Formerly Thales B.	18252	Formerly Agarum N.
13951	Formerly Strabo J.	18356	Formerly M. Anguis A.
13952	Formerly Strabo E.	18369	Formerly Oriani C.
13970	Formerly Strabo B.	18413A	Formerly M. Anguis T.
13972	Formerly Strabo F.	18464	Formerly Oriani A.
14094	May be double.	18475	Not Fr. 504.
14495	Designation now restricted to part of formation formerly designated Le Monnier S.	18481	Formerly Oriani E.
14558	Formerly G. Bond K.	18501	May be doublet.
14665	May be compound.	18508	Not B & M's crater with same designation.
14828	Ghost ring.	19013	Formerly M. Spumans Q.
14839	Formerly Strabo A.	19021	Formerly M. Spumans P.
14844	May be double.	19037	Formerly Neper A.
14920	Formerly Strabo G.	19079	Formerly Neper B.
14920A	Formerly Strabo K.	19153	Formerly Neper E.
15060A	May be double.	19162	Formerly Neper C.
15268	Formerly Vitruvius D.	19175	May be double.
15551	May be double.		

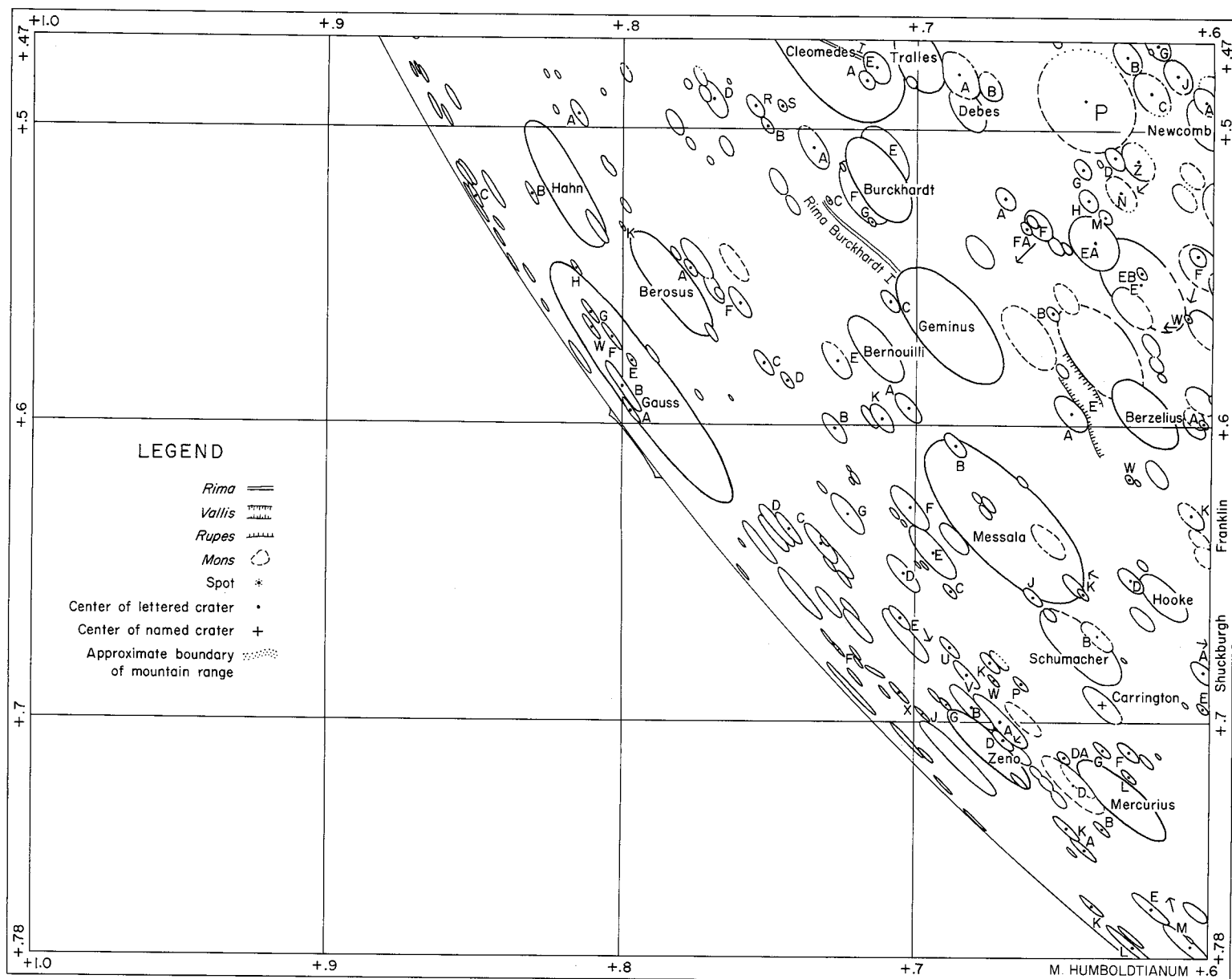
The former designations referred to above are those of Blagg and Miller's Named Formations, Vol. 1, and the "Consolidated Catalog of Selenographic Positions" (Comm. L.F.L., No. 11).

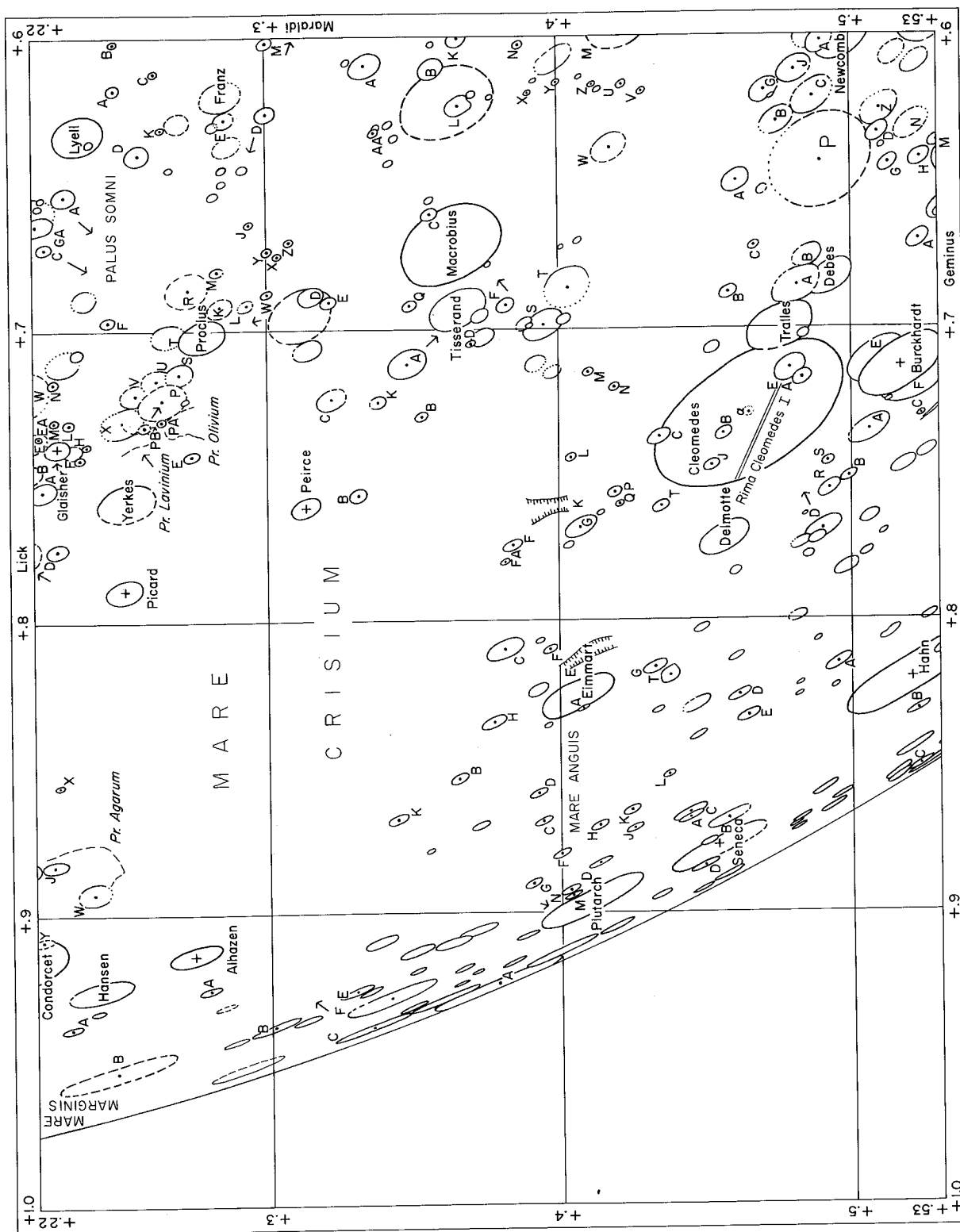
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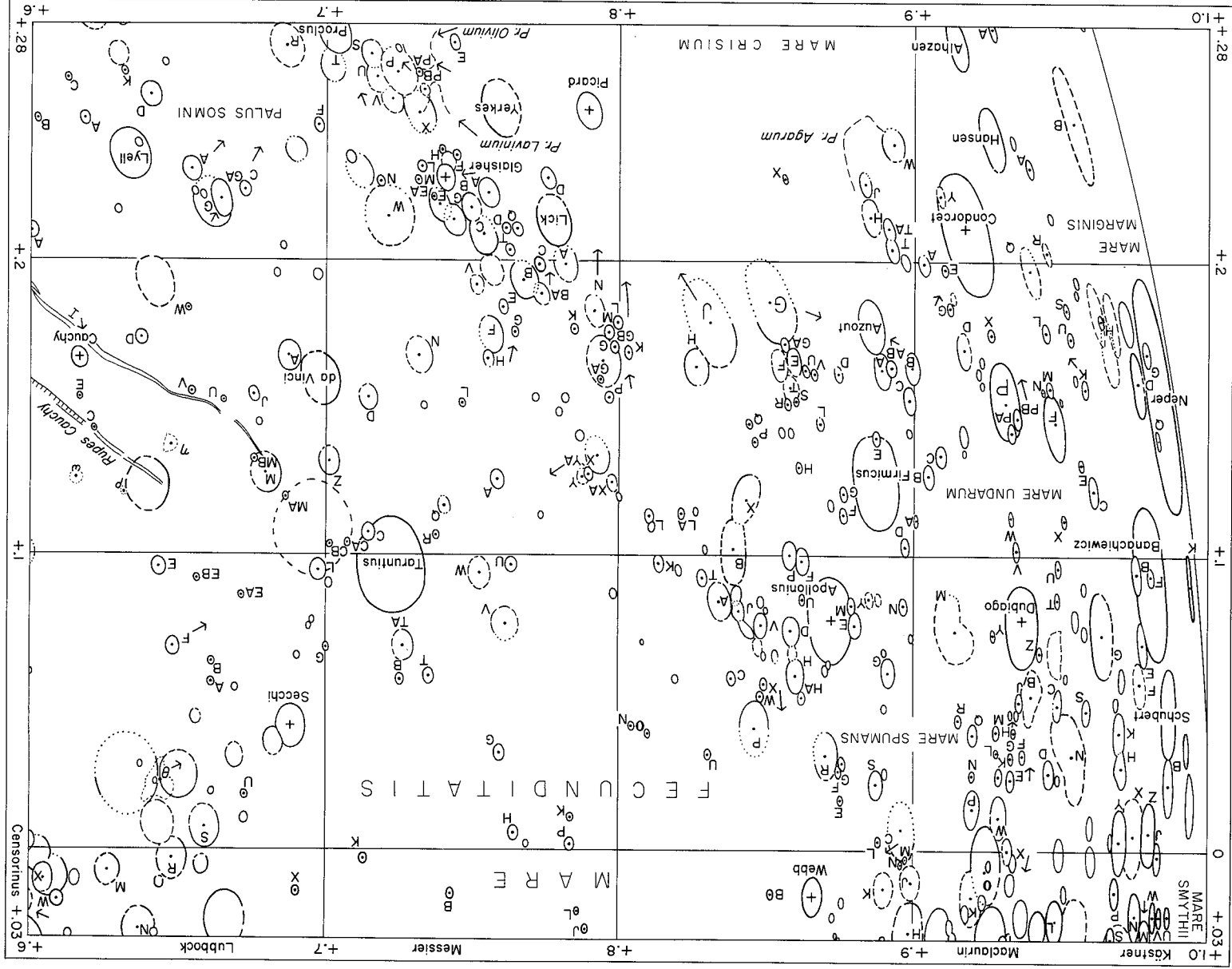


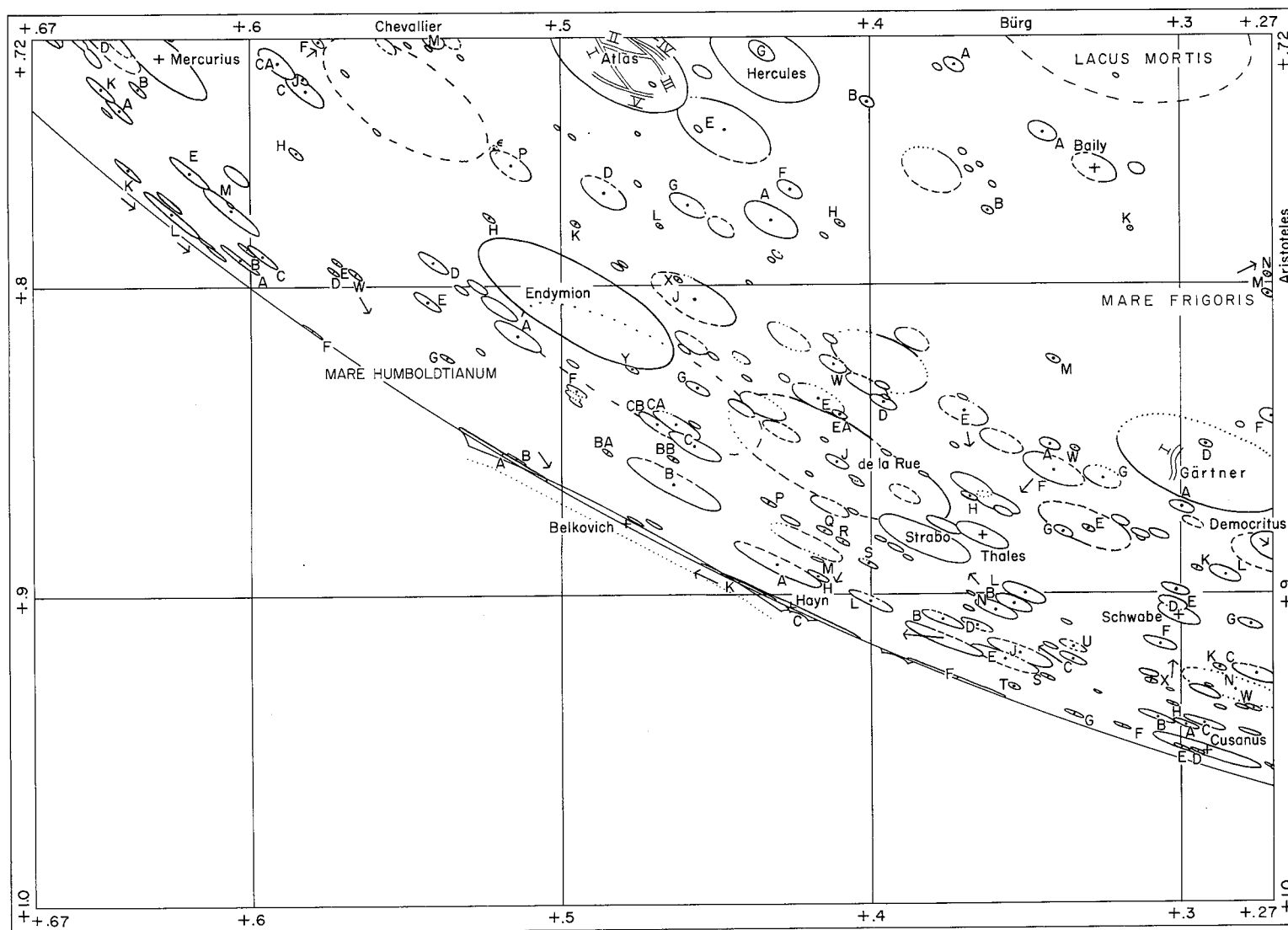
A3



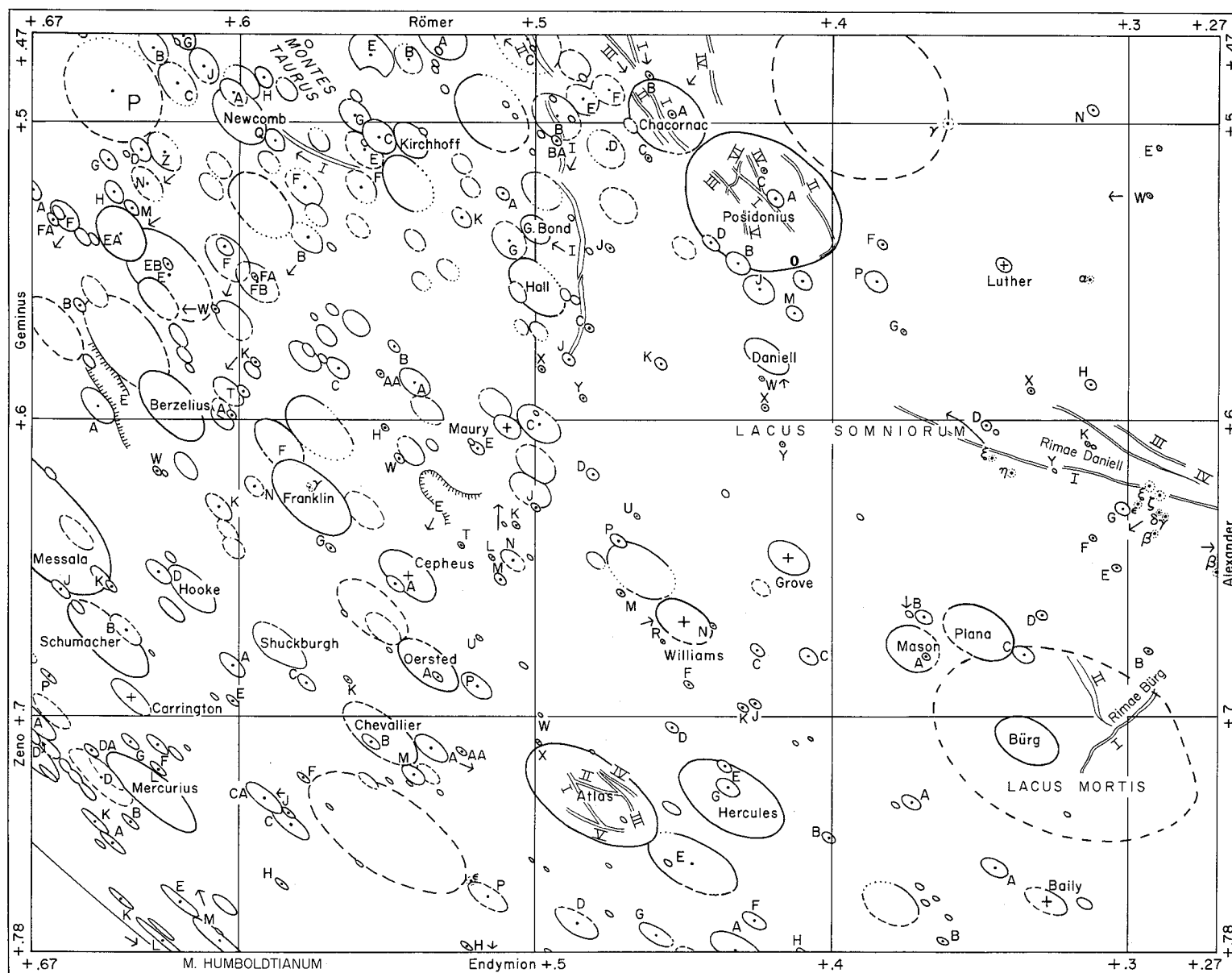




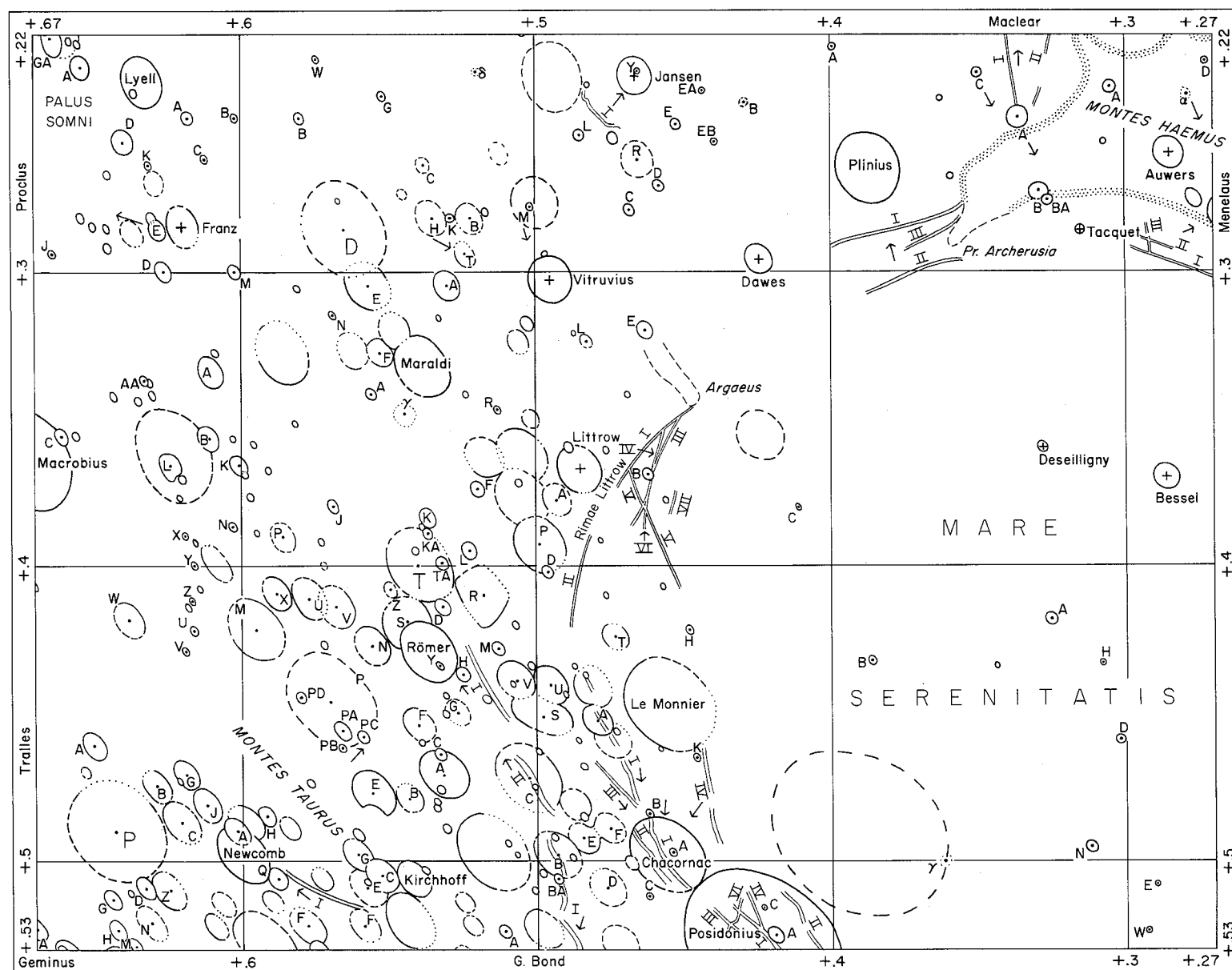


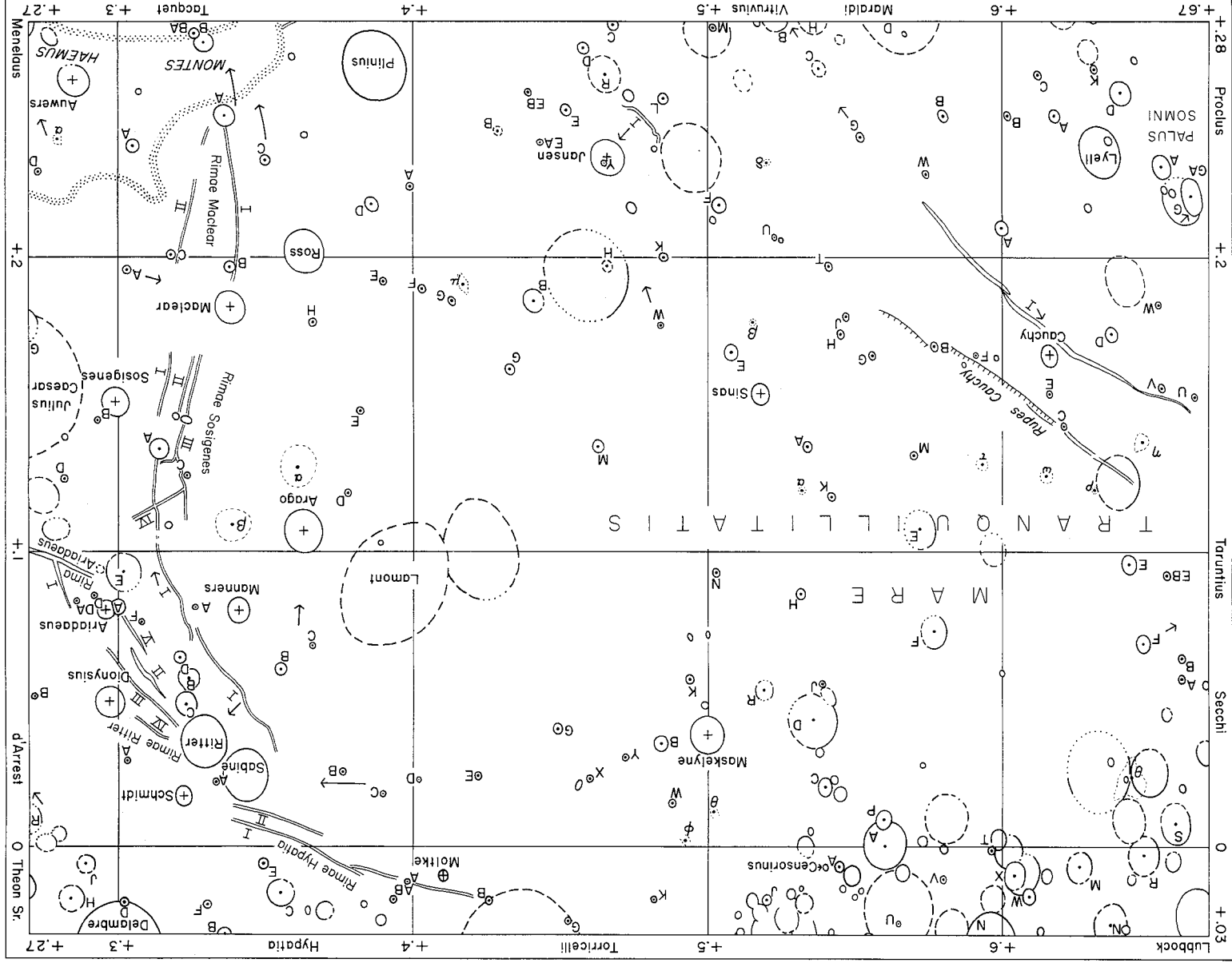


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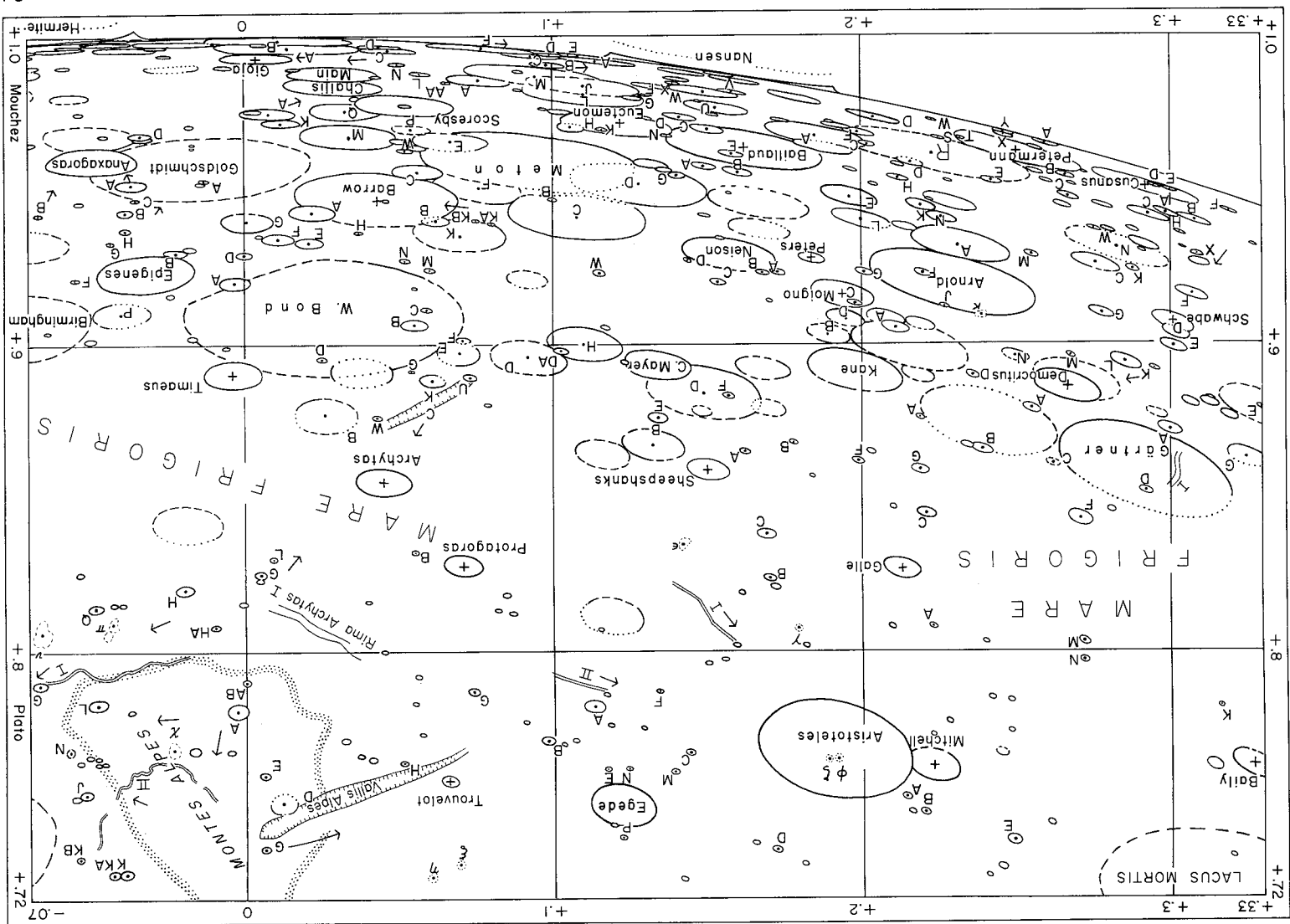


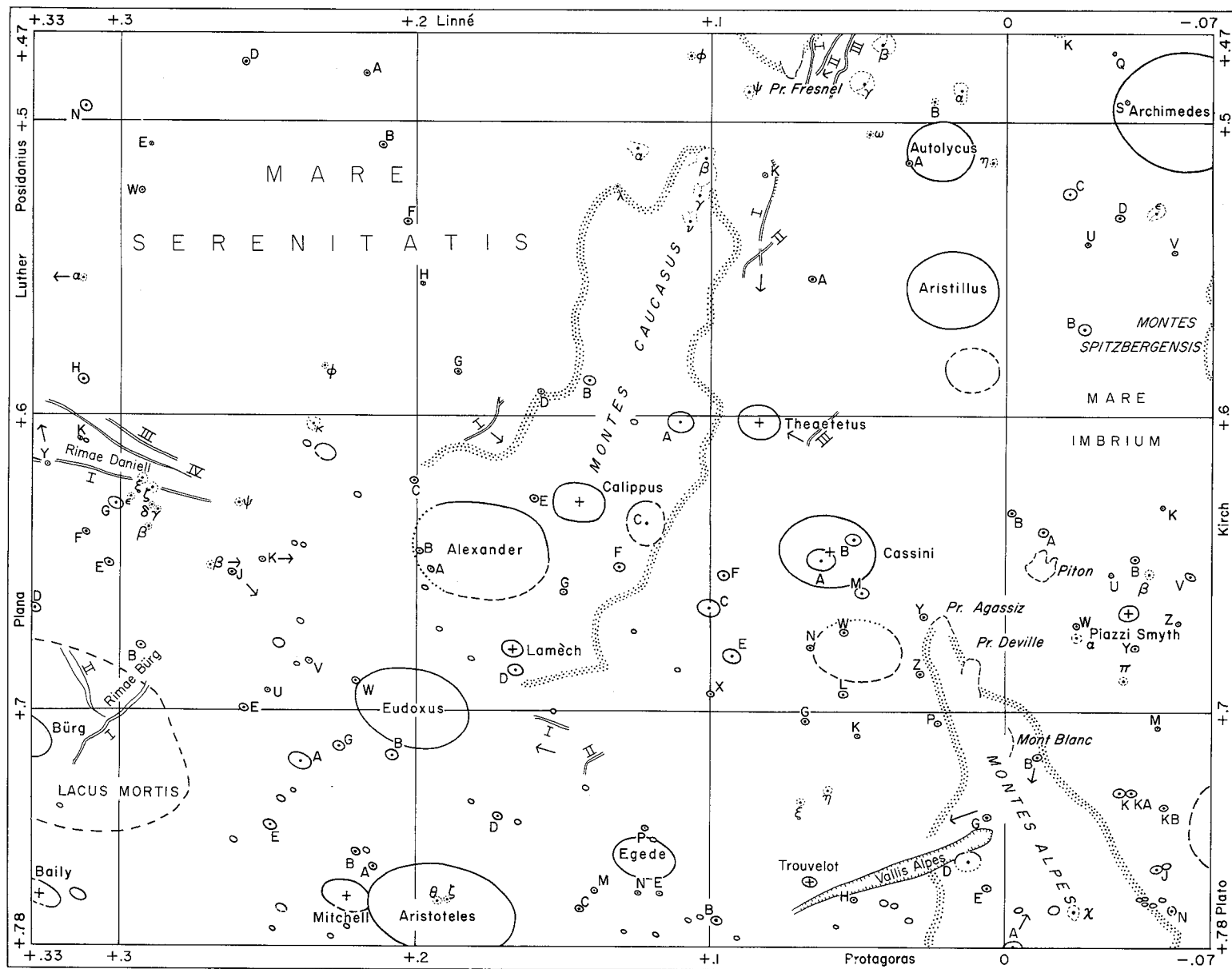
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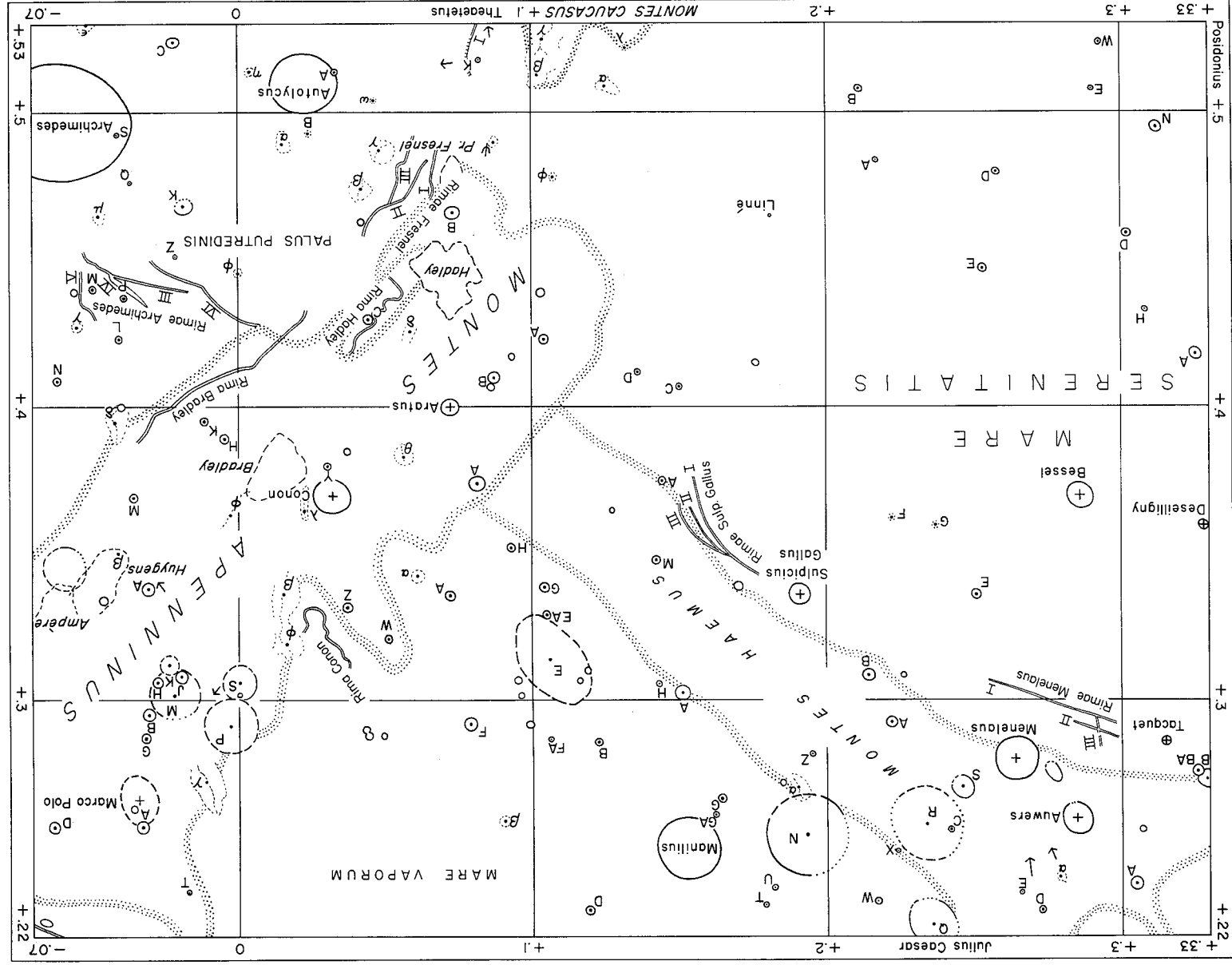


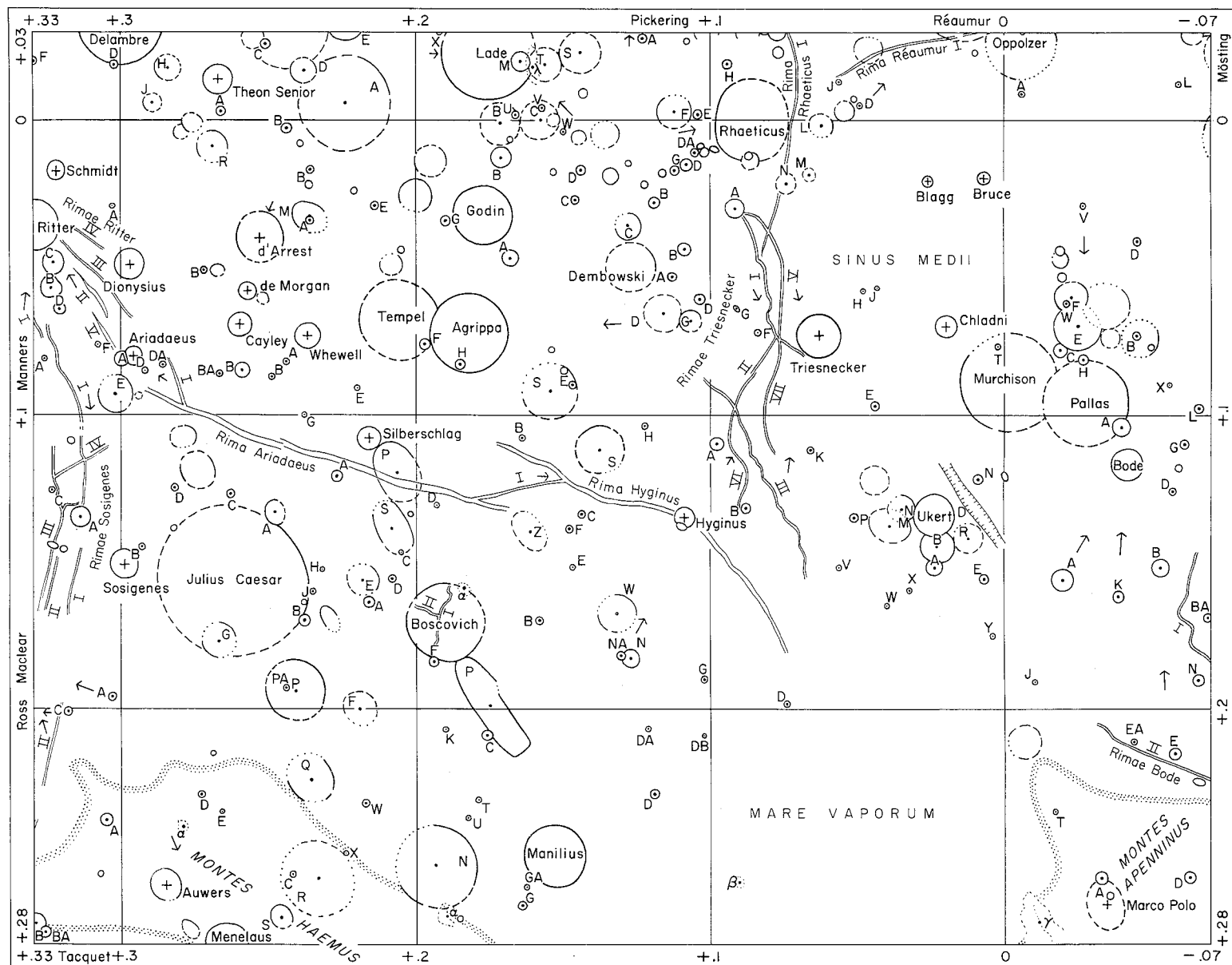
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